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Arteriosclerosis is so variable in its manifestations that it is difficult to draw sharp lines as to special organs affected, but sometimes the symptoms point so definitely to the heart, brain or kidneys that one may say with a certain degree of accuracy that the process has involved these structures, and at times it is possible to sharply localize the area. Other tissues affected by the disease process may show prominent symptoms during its progress, so that the first indications to the patient may be misleading. Thus, digestive disturbances from passive congestion in the mucosa of stomach or intestine may be an early sign of a failing heart which has long carried a heavy load.

The clinical types of arteriosclerosis may be due to disturbances in the following:

(1) *The heart.* Many cases called "heart disease" are primarily arteriosclerosis. The symptoms in this group come from gradually failing heart muscle, manifested by palpitation, dyspnea, slight edema, fatigue on exertion, or anginoid pains about the precordium.

(a) Passive hyperemia. This results primarily from the failing heart but the symptoms may depend upon the organ affected. Thus, as already indicated, the symptoms may be primarily in the digestive tract, or the first symptoms may be from the respiratory tract, from cough, expectoration (which is sometimes blood-tinged) or dyspnea. Renal symptoms may be due to passive hyperemia.

(2) *The cerebral circulation.* This may show itself in symptoms of frank hemorrhage, thrombosis or edema. Stone has called attention to the fact that cerebral edema may be mistaken for uremia.

(3) *The kidneys.* Manifesting symptoms of marked disturbance in these organs with chemical and microscopic evidence in the urine of lesions more or less advanced.

(4) *Angiospasm or gross atheroma in peripheral vessels.* Pal, in his monograph called attention to angiospasm as an explanation of intermittent claudication, angina abdominalis, etc. Whether there is an entity which we may call abdominal angina seems doubtful, if by that we mean angiospasm, producing such pain, tho typical anginal pains are apparently produced about the *heart* from such vessel spasm. Coronary sclerosis and endarteritis obliterans in other vessels than the coronaries give such well marked symptoms that it is not necessary to discuss them

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here. Cases illustrating these conditions will be referred to later.

Stone (*Arch. Int. Med.,* Nov., 1915), studied a series of cases with high arterial tension in vascular disease and classified them as cerebral and cardiac, basing his conclusions upon blood-pressure readings and the estimation of the *heart-load* by formula. This leads us to the consideration of the capacity of the heart to meet the demands thrust upon it. Strassburger, in 1905, attempted to find a blood-pressure quotient by dividing the pulse-pressure by the systolic-pressure. Tigerstadt used this formula for determining the efficiency of the heart as a pump, saying that velocity of the arterial stream (pp x p rate) divided by the work of the heart (sp x p rate) is the cardiac efficiency.

$$\frac{\text{Velocity} = \text{pulse-pressure} \times \text{pulse rate}}{\text{Work} = \text{systolic-pressure} \times \text{pulse rate}} = \text{heart efficiency}$$

$$\text{which is equivalent to } \frac{\text{pulse-pressure}}{\text{systolic-pressure}}$$

Stone objects to this formula because it does not give an adequate idea of the work done, for under certain conditions the heart may be doing greatly increased work with rapid pulse, but with *lessened output* owing to vasomotor disturbances as in shock, where there is stasis in the splanchnic area and the heart is pumping into comparatively empty vessels. Here its efficiency is impaired, while its work is increased. Further, Stone maintains that the force necessary to open the aortic valves (diastolic-pressure) avails nothing for the movement of blood. He contends, therefore, that the force expended above this, or pulse-pressure, is to be used in the ratio for the measurement of the work done by the myocardium in moving the column of blood, or

$$\frac{\text{pulse-pressure}}{\text{diastolic-pressure}} = \text{heart-load} \quad (\text{normal } .40\text{-}.60)$$

Stone found that 27 patients who showed cerebral symptoms had an average heart load of 51 per cent., considering 40 to 60 normal; while 24, who showed cardiac symptoms most prominently, had an average heart load of 88 per cent. In other words, patients with low diastolic pressure, with systolic hypertension, sooner or later show heart failure which precedes symptoms from other organs.

Out of 71 cases included in the tables, blood pressure readings and clinical observations having been made in the last three or four years, 52, or 70 per cent. fall according to the "heart-load" in the cardiac group. Fourteen are referred to particularly; five of these have died. Three (Edw. Drennen, Brown) from cardionephritic symptoms, all finally in coma (uremia). One died suddenly with angina pectoris and one in diabetic coma. The majority of the cardiac cases show upon repeated examinations the urinary and clinical findings of chronic interstitial nephritis with increased output, traces of albumin, few hyalin and granular casts. One case in the cardiac group had been unconscious for two weeks when first seen, in apparent uremia, but recovered on active cardiac stimulation, falling apparently in the cerebral edema type.

In the cases falling into the cerebral group (19 cases) there were definite clinical evidences of cerebral hemorrhage in most but there were some anomalies, for repeated blood pressure readings show in some a high heart-load at times, and some signs of cardiac strain. A considerable number of cases was found which, according to the formula, fall into one or the other group, but so far show no outspoken cardiac or cerebral symptoms. These may later show the prognostic value of estimating the heart-load.

The following patients were observed from periods of time varying from three years to six or eight months. Blood-pressure observations were made at frequent intervals and they are tabulated in tables one and two as cardiac or cerebral, *according to the heart-load.* The symptoms of these patients were definitely cerebral or cardiac.

Case 19. Mrs. Dr., age 58, suffering from cholelithiasis. Her blood-pressure when first seen was systolic 240, diastolic 140, with a heart-load of 70. One month later the systolic-pressure was 190, diastolic 130, load 45, the patient showing marked improvement so far as the heart was concerned. Three months later, after a period of comparative comfort, she took to her bed with severe tonsilitis. In a short time she had retinal hemorrhages and after four months died. In the meantime she had shown definite cardiac failure and all the evidences of nephritis. This case was definitely cardionephritic.

Case 18. Mr. D. E., age 43, complained of shortness of breath. Up to two months before consultation had been perfectly well. Blood pressure at this time was S 180 and D 112, load 61. The heart was hypertrophied. Under treatment his blood pressure fell in six weeks to S 154, D 118, load 60 and he was much improved, tho there was some dyspnea on exertion and he complained of weakness.

He was then lost sight of until eight months later, in the meantime having no medical treatment, relying on Christian science. He then complained of insomnia on account of dyspnea which had lasted for three weeks, so that he only had one or two hours sleep during the night. Ten days before he had lost the use of his right hand for three days. Examination showed pulse 130, S 210, D 150, load 40, with a soft blowing systolic murmur at the heart apex. The heart was enlarged one finger's breadth outside the nipple line. At the bases of the lungs posteriorly were many fine rales. From this time until his death four months later he became progressively worse with all the evidence of cardiac and kidney failure.

Both these cases were cardiac rather than cerebral. It will be noted that the heart-load was not high in either case, when the patients were seen with evident cardiac strain. The relatively high diastolic pressure may be partly due to increased vascular tone. The dyspnea and cyanosis are explainable on the basis of passive congestion, since the force of the heart contraction *above diastolic* pressure is the factor in moving blood mass.

Case 28. Mrs. Ruf., age 56. For some months previous to the first visit she had been having more or less acute pains over the precordium and extending down the left arm, usually but not always brought on by exertion. S. pressure 175, D. 100, heart-load 75. For some six or eight weeks she had a serious time from a failing heart with irregularity and dyspnea or suppression of urine with marked albuminuria. She then gradually improved until she was up and about and in comparative comfort for three months, when she was found dead in her chair.

In the intervals her blood pressure had varied from S. 180 and D. 100 to S. 190 and D. 120, with increased heart-load. However, during the period when she was feeling well, her pulse was at times quite irregular, polygraphic tracings showing ventricular extra systoles. During observation there was no doubt of the condition being due to angina pectoris.

Two patients were seen while comatose. The histories are as follows:

Case 30. Mrs. L. E. G., age 55. For two weeks patient had been semicomatose and had involuntary urination and defecation. Albuminuria had varied from 1.5 to 0.9 grams per liter. Her blood-pressure at this time was S. 190, D. 95, with a heart-load of 90. The pulse was irregular and the heart was definitely hypertrophied. She had all the appearances of being in uremic coma; there was some edema of the extremities. Under cardiac stimulation, venesection and treatment directed to the kidneys she improved remarkably in three or four days and, under continued stimulation of the heart with digitalis, made an uneventful recovery and is well today, after two years. At the time this patient was seen it was thought that her coma was due perhaps to cerebral edema on account of the definite heart weakness, as Stone has pointed out.

Case 31. Mr. C. E. B., age 56. Unconscious for three days with Cheyne-Stokes breathing. The consultant stated that S. pressure was 250 but did not know about the D. The patient, he said, had for years had high blood-pressure and albuminuria. Venesection had been done two days before without improvement. Examination showed the heart hypertrophied, the sounds clear and S. 120, D. 95, heart-load 20. This heart-load apparently indicates a marked heart failure because it is known that this man had shown a very high systolic pressure before. In the next day there was almost complete repression of urine and the patient died in apparent uremia.

Case 38. Mr. N. L., age 48. Complained of shortness of breath, insomna and some fluttering of the heart on exertion. He had had heavy business responsibilities, working under considerable nervous strain for two years. The heart was slightly enlarged; the pulse rate 110, S. 175, D. 110, load 60. At this time the liver was two fingers' breadth below the costal margin. He was under observation for four years, in this time improving much in regard to subjective symptoms and when last seen S. 180 and D. 110 with a heart-load of 63 were found.

When first seen definite evidences of cardiac strain were found. Since then the heart has given very little trouble. Whether this case belongs in this group will be shown by further observation.

Case 8. Mr. H. E. N., age 67. Complained of weakness, dizziness and pain about the heart. Has had diabetes about nine years. S. pressure at this time was 145, D. 80, with a heart-load of 73. For almost a year the main problem was the control of his diabetes, tho at times he had much trouble with infections about the nails of his toes or at other times extreme paresthesias about the toes, due to endarteritis obliterans. He finally developed a massive carbuncle of the neck from which he died. At this time his heart became very irregular and there was much dyspnea and other signs of heart failure. Aside from the diabetes and its complications and while the patient died in diabetic coma, the heart showed definite weakness.

Case 27. Mrs. P. E. L., age 55. Complained of hoarseness, headache, dizziness and insomnia. On first examination the heart was found slightly enlarged, pulse 100, S. 185, D. 95, with a heart-load of 95. Later her blood-pressure showed S. 210, D. 100, with a heart-load of 110 and there were definite signs of heart weakness at this later date. Under treatment the blood-pressure fell in six months to S. 165, D. 110, load 50, and the patient was markedly improved.

TABLE 1.

Cases With Load ($\frac{pp}{dp}$) Over 60 (Cardiac).

No.	Name	Age	SP	DP	PP	Load	
1	Ben	53	190	110	80	73	
			195	115	80	73	
2	Ber		155	80	75	90	
3	Bo		155	80	75	90	
4	Bur		162	85	17	77	
5	Cum		210	110	100	90	
6	T. B. F.		220	100	120	120	
7	J. M.		164	82	82	100	
8	Nor		145	80	65	73	
			155	80	75	90	endart. obl.
9	Rob		210	108	102	94	
10	Sie		155	75	80	106	
11	Thor		190	110	80	70	
12	BT		190	105	85	80	
			185	100	85	85	
			150	100	50	50	after sweat.
13	Wa		248	135	113	84	
			195	120	75	60	
14	Ha		190	110	80	70	
15	Kn		175	100	75	75	
16	Je		170	90	60	88	
17	Ho		270	120	150	125	
18	Ed	43	180	112	68	61	
			210	150	60	50	cardiac failure.
19	Dr		240	140	100	70	
20	Co		155	90	65	72	
21	Ca		190	80	110	137	
22	Ke	65	225	138	87	60	
			230	130	100	91	
			192	120	72	62	aphasia, confusion.
23	ACh		155	100	55	55	glycosuria.
			135	75	60	80	
24	Cha		220	120	100	70	
			200	95	105	110	
			160	100	60	60	mental confusion.
25	Cr		195	85	110	77	
			230	120	110	90	
			180	110	70	63	
26	Kn		200	105	95	90	
27	Pelt		185	95	90	95	
			210	100	110	110	
28	Ru		175	100	75	75	angina pectoris.
			190	120	70	60	
29	Sw		185	100	85	85	
30	Le	55	190	95	85	90	comatose, recovery.
31	CEB		250	?	?	?	
			120	95	25	20	comatose, uremia.
32	JKG		170	100	70	70	
			155	85	70	80	bigeminal pulse
33	Hatch	84	190	95	95	100	
34	Ba	55	185	105	80	80	
35	Bo	58	190	100	90	90	7–14–14.
			150	85	65	75	1–30–17.
36	Go		185	100	85	85	
37	To	63	170	70	100	70	bulb. paralys.
			100	75	75	100	card. failure.
38	La		175	110	65	68	7–7–13.
			184	118	66	51	2–20–14.
			180	110	70	63	9-30-16.
39	JK	38	190	110	80	72	
			150	95	65	60	
40	Mu		150	80	70	87	
41	Han	48	210	135	85	60	
			175	110	65	64	
42	Fo		150	85	65	77	
43	Mu		146	80	66	80	
44	Pe		190	115	75	65	
45	Hu		180	110	70	64	
46	Ra		180	110	70	64	
47	Al		215	120	95	60	
			185	120	65	54	
			190	115	75	60	
48	How		160	130	30	23	card. failure, edema, etc.
49	Dav	57	200	125	75	60	
			170	125	45	36	
50	CA	73	155	110	75	68	
			155	95	60	63	

51	SDS		180	110	70	63	
52	Po	65	230	145	85	51	July 1914.
			195	115	80	70	December, 1914.
			200	120	80	66	March, 1916.
			150	90	60	66	September, 1916.

Case 12. Mrs. B. T., age 63. Complained of three months' pain at back of head and extreme dizziness. S. 190, D. 105, heart-load 80. This patient was observed over one year and a half. Her symptoms improved from time to time but on the whole they were cardiac, altho subjectively her main trouble was headache and dizziness. She showed the good effect of hot baths and electric light baths, some observations being made before and after these treatments.

The record is as follows, as shown in the table: Before treatment S. 185, D. 100, heart-load 85. After treatment S. 150, D. 100, heart-load 50, apparently showing that the benefit of such treatment is due, in part at least, to the reduction of the heart work, tho diastolic-pressure is not influenced.

Case 17. Mrs. H., age 66. Complained of extreme dizziness for three years, throbbing and fullness in the head and recurrent epistaxis. She had considerable dyspnea and palpitation on exertion. Her systolic pressure was 270, diastolic 120, with a heart load of 125. This patient was lost sight of but when last heard from, one year after first seen, she was complaining still of some dyspnea and palpitation. According to our factor of heart load, her heart was doing a tremendous amount of extra work.

Case 23. Mr. A. C., age 68. Complaining of polyuria (which was found due to diabetes), headaches and considerable dizziness. Has been troubled much with insomnia of late. There was moderate thickening of peripheral arteries and occasional irregularity of the heart. S. 155, D. 100, with a heart load of 55. Some weeks later when the diabetes had been controlled, S. 135, D. 75, with a heart load of 80. The day previous he had caught cold, felt very tired and had not slept well. On examination there are occasional ventricular extra systoles. For the past six months the heart load has been normal and the patient is comfortable.

Case 24. Mrs. Ch., age 62. Complains of insomnia and palpitation of some years duration. Two years ago numbness in left side of body which lasted a few months. S. 220, D. 120, heart load 70. The heart was definitely hypertrophied and at times irregular. Two months later, after catching cold, S. 200, D. 95, heart load 90, with considerable dyspnea on exertion.

The patient was kept under observation for the next eight months, at times showing rises and falls in blood-pressure accompanied by evidences of cardiac strain. Finally she had an attack suggesting slight cerebral hemorrhage during the night on getting out of bed, characterized by extreme palpitation, nervousness and partial loss of consciousness. A few days later her pressure was S. 210, D. 110, load 90. This illustrates the combined cardiac and cerebral types, tho cardiac symptoms were most prominent.

Case. 44. Mrs. P., age 48. Complains of fullness and tightness of the head, dyspnea on exertion, palpitation, insomnia, blood-pressure, S. 190, D. 115, with a heart-load of 65. During the time that she was under observation, which was three or four months, she improved markedly, blood-pressure falling to S. 160, D. 105, load 55.

The following case showed cerebral symptoms, but the heart-load was high:

Case 22. Mrs. W. H. K., age 65. When first seen this patient complained only of dizziness. Upon lying down had much throbbing in the ears. Systolic pressure 225, diastolic 138, and a heart-load of 60. Under treatment her pressure fell to S. 185, D. 115, load 60, one month later; but eight months after first seen she had a facial paralysis and marked mental confusion. Her blood-pressure at this time was S. 192, D. 20, with a heart-load of 60. There was no evidence of cardiac strain.

These two cases, according to the ratio, show increased heart load. Case 24 showed definite cardiac symptoms, while case 22 showed practically none, her symptoms being cerebral.

The following patients in Table 2 showed cerebral symptoms most prominently:

Case 1. Mrs. G. W. B., age 54. Seen first in July, 1915. In March, 1914, she had had a cerebral hemorrhage associated with numbness in the right leg and difficulty in speech and swallowing. At times there had been uncontrollable laughing and crying. Examination showed S. pressure 255, D. 160 with a heart-load of 50. Three months later, S. 236, D. 150 with a heart-load of 50. She was observed until Feb., 1916, at no time showing any evidences of cardiac strain nor kidney involvement. The symptoms were clearly cerebral.

Case 2. Miss L. B., age 25. Seen first July, 1915. For seven years this patient had had severe and recurrent headache and occasional dizziness. On examination her blood-pressure was S. 198, D. 135, with a heart-load of 40. She has been observed for almost two years, constantly showing a blood-pressure far above normal. Wassermann tests have been repeatedly negative and there is no nephritis. It was thought for a time that thyroid disturbance was a factor in producing the condition. At no time has there been any evidence of heart strain. According to repeated blood-pressure examination, the case falls into the cerebral group. This patient shows no arteriosclerosis but is referred to here because of the blood-pressure findings.

Case 11. Mrs. McC., age 55. Seen first in

TABLE 2.

Cases With Load ($\frac{pp}{dp}$) Under 60 (Cerebral).

No.	Name	Age	SP	DP	PP	Load	
1	Bat	54	255	160	95	50	Bulb. paralys, 1914.
			236	150	86	52	
2	Be		198	135	63	40	
			172	142	30	20	
3	ELB		158	110	48	43	conjunct. hem.
			140	110	30	27	
4	Car		162	108	54	50	
5	Dav		202	125	77	60	
6	Mun		150	98	52	53	
7	Sav		150	110	40	36	
8	Shv	56	176	120	56	40	
9	Tho		170	120	50	40	
10	McC		175	120	55	45	auric fibrill.
11	Da		172	125	42	31	
12	Wit		185	140	45	32	
13	EAK	56	165	110	55	55	
			150	110	40	36	
14	Liv	58	180	130	50	30	
16	Bak		250	155	95	60	apopl. attack March, 1916.
			190	140	50	35	June, 1916.
16	Lew	69	205	130	75	50	April, 1914, headache, dizzy.
			172	118	54	46	July, 1914.
			165	115	50	43	April, 1915.
			180	115	65	50	April, 1917.
17	HII	65	170	110	60	56	
18	Rickert	65	165	100	65	65	April, 1916.
			185	120	65	50	June, 1916, hemianopsia.
			180	125	55	44	Nov., 1916, dyspnea, Cheyne-Stokes.
			180	120	60	50	March, 1917, irreg. dyspnea.

September, 1915, and under observation since. Complained of heart trouble for years with weakness, dyspnea and palpitation. Examination showed hypertrophied heart with mitral insufficiency. Blood-pressure S. 175, D. 120 heart-load 45. At times she had shown definite cardiac failure and never any indication of cerebral symptoms. According to our classification, she falls in the cerebral group, altho her symptoms have been entirely cardiac.

Case 19. Mrs. E. N. S., age 56. First seen in May, 1915, complaining of dyspnea and palpitation. This patient was seen in several attacks of paroxysmal tachycardia, which had been present off and on for nine years. S. pressure 176, D. 120, heart-load 40. She was under observation for eight months, developing cardiac failure with marked decompensation. During the succeeding months she was never able to leave the house and had relapses which involved her heart and kidneys for months before her death. There were never any cerebral symptoms other than those associated at times with what was considered cerebral edema or uremia. Repeated blood pressure examinations showed most often a low heart-load, altho at times, when there was marked dyspnea, the load was increased.

According to our formula of heart-load, this case falls in the cerebral group but the symptoms were predominatingly cardiac or nephritic.

Case 19. Mr. F. E. R., age 72. When first seen in April, 1916, he was having much cardiac distress with auricular fibrillation. His blood-pressure at this time was S. 165, D. 100, heart-load 65. Repeated examinations since that time showed a low heart-load varying from 50 to 44. Two months after first seen, he had aphasia, mental confusion and hemianopsia, the right half of the field of vision being affected. Since that time there has been much mental confusion, change in disposition and recurrent evidences of cardiac strain.

This case, according to our formula falls in the cerebral group but cardiac symptoms have been prominent.

CONCLUSIONS.

This study has shown that the majority of hypertension cases in arteriosclerosis show sooner or later cardiac strain.

The estimation of the heart load seems of value as evidence of increased work demanded of the heart, and to a certain degree of how much work.

The kidney's share in arteriosclerosis seems more evident in the terminal stages. Of the patients with arteriosclerosis seen in the past four years, the kidneys function well, as a rule, while the patient is ambulatory.

Of the numerous formulae and methods of estimating the functional capacity of the heart, the ratio between PP and DP seems best to represent the *heart load.*

The prognostic value of this formula is not evident in this study, for in those cases falling in the cerebral group, according to formula, the symptoms here too are often cardiac.

THE PROBLEM OF SOCIAL DISEASES IN THE MODERN ARMY.*

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Up to the present writing few definite figures on the percentage of venereal diseases among the troops of the Allies have been published, probably due to the enormous lists of wounds and fractures engaging the largest part of the work of all the base and field hospitals, and to the reluctance even today of publicly stating the truth about these diseases which have always been under ban. Outside of their social stigma, discussing the subject with levity and knowing that these diseases run a comparatively mild course and are rarely fatal, commanders find countless days of service lost to the army and its efficiency greatly crippled in consequence of them.

A careful study of all great wars, where large bodies of men invade other countries, finds in their wake, spread broadcast thru the civilian populace, a scourge of disease of which syphilis plays a major part. Even in the present war Germany has been far from slow in using this disease as a weapon to spread further ruin thru France and the armies which oppose her. Women are purposely infected in large numbers and, when the disease becomes ripe, are sent back thru the lines to further spread the spirochete and help undermine the national health.

Let us take a few figures from several sources to get our averages. In the October 13, 1917, *A. M. A. Journal,* is a report of the Health Department of the Panama Canal for July, 1917. Among the 32,587 employees of the Panama Canal and the Panama Railroad Company, there were 908 admissions to hospitals and quarters. Diseases causing the highest admission rate to hospitals were, in order of their numerical importance, venereal diseases 14 per cent., malaria 13 per cent.; then tuberculosis, organic heart disease, pneumonia.

The meeting of the College of Physicians of Philadelphia, Oct. 3, 1917, was devoted wholly to a discussion of the control of venereal diseases in military life. Col. T. H. Goodwin, of the British Army, was the speaker of the evening. Among other things he said, "Estimates made by the Royal Commission on Venereal Diseases indicate that in the larger towns of England at least ten per cent. of the total number of inhabitants are infected with syphilis, and gonorrhea is even more prevalent." This would mean that in London alone there are 450,000 syphilitics. Sir Wm. Osler places this disease as third on the list of what he terms "killing diseases."

That venereal diseases have not been adequately grappled with, as have other infectious diseases, is due to the mistaken policy of silence. In our army, notwithstanding that the best methods of treatment were employed, it was found in 1912 the average number of men incapacitated was 593 which, with an army of 107,000 men, represented a loss of 216,000 working days in the year.

All observers confess that syphilis, gonorrhea and chancroid have brought themselves before the public notice, due to the fact that the great war is causing these diseases to spread thruout the various countries involved with greater rapidity than normally. However, the worst is yet to come. What may seem a menace today in Europe will develop into a colossal scourge in our own country, when the war is over and the men come back from the front. We have only to go over the venereal statistics compiled in the various European countries, before and after the Crimean and Napoleonic wars.

Gaucher, in the Bulletin del' Academie de Medicine of Paris, emphasizes the extraordinary increase of gonorrhea and syphilis in men and women since the beginning of the war. In 1911, Garrish estimated that 10 per cent. of the population of New York City were syphilitic, and that over 10 per cent. of the people of the United States showed signs of the disease. In the Army not long ago Bartlett found 10 per cent. of one command infected, and Church estimates that there are twenty million syphilitics in the United States. In 1890 Piltz found that 70.64 per cent. of 4,134 officers in the Austro-Hungarian Army, who either died or were permanently incapaciated, were syphilitic and that, in the Royal and Imperial Army in this present war, the officers who are infected with this disease, are 78 per cent. of the total personnel, according to their own Surgeon General's report.

British authorities state that venereal diseases are the cause of more hospital admissions among the soldiers than any other disease, causing 38.8 per cent. of the total inefficiency of British armies in France, and one-third of all illness of the British Navy. To bring the figures closer home,

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*Read before Base Hospital Staff, Camp Lewis, Tacoma, Wash., Dec. 1, 1917.

I quote the report on the health of the American troops in France, for the week ending Nov. 9, 1917, a picked army, well protected and in the field. Following is the estimate of the percentage of cases of principal diseases per thousand men: venereal disease 181.5, pneumonia 16.6, measles 21.7, dysentery 2.0, malaria 1.0, scarlet fever 1.9, meningitis 1.0, typhoid 0.

In the new American camps and cantonments, thirty-two divisions strong, the diseases for the week ending Oct. 19, 1917, we have the following figures: Total strength of command is 800,874. Pneumonia 149, measles 293, meningitis 10, malaria 78, dysentery 10, venereal 1826, total admissions 2268. The figures for Camp Lewis are not complete, as most of the infirmaries treat their own venereal diseases, sending to the Base Hospital only their worst cases.

As to venereal disease prophylaxis, volumes have been published without any change in the condition of things. So much in life is merely a point of view, a matter of custom, depending whether the judge be a wild, young animal bubbling over with health and filled with a curiosity of life, or whether he be an old scarred veteran with the joys and the passions of life burnt out. It makes a difference in our views. So, no consideration of prophylaxis amounts to much unless the following truths are considered.

(1) The sexual instincts of men and their sexual habits are almost as great as their fight to live and the fight for food. They form an integral part of all lives, not alone of mankind but of every living thing which reproduces its kind. Life which does not reproduce itself dies, therefore unconsciously mankind desires or attempts to reproduce. The control of this instinct, its regulation, must come from the tastes, fancies and discretion of the individual animal. In no other way can it be efficiently controlled.

Experience has shown that monogamy, upon which our laws and customs are founded, is not a success. Restrictions are cast aside, vows broken and the sexual instinct is satisfied. What are the physical reasons for this condition? Among the list we find sexually unsatisfied married men and women, and those who for certain reasons cannot assume the burdens of marriage. The great instinct overbalances their control. Another reason for lack of control is the presence of sexual stimuli. It is found in all animal life. Bringing opposites together arouses them immediately, quickening their vision, sharpening their scent and bringing every part of them to attention. And the absence of sexual stimuli also holds good. Men on the plains and the frontiers of civilization, as in the far North, pass months and months with never a sexual desire, the stimulus being absent.

One other factor I will mention is the mental strain under which men at times must live, as the present one. The new soldier is away from home, nostalgia fills his heart, almost certain death awaits him "on the front." In what remains to him of his life he will live to excess, his ideals he abandons and flings precaution to the winds. Life in his eyes is already lost, so why be careful of his body. This disease-recklessness is well illustrated in our conscripted army.

(2) The second consideration is the wide prevalence of venereal disease in civil life, and the hundreds of sources of infection, it being universal. No one who has practiced in a city will dispute me. No figures are needed. It is not the public woman who is the most active in spreading these diseases; it is discontented, restless married women, shop girls, high school girls, social parties, week-ends and even Sunday school teachers. With them it is not an economic question nor the need of money always, but rather a wild adventurous spirit and abandon to the great sex instinct.

(3) The third consideration is control of the sexual instinct by religion or fear of disease. They have been tried and have proved most futile. Even in the days when the church had her greatest power over the state and individual, gross sexual irregularities existed. The Y. M. C. A. has done good wook by diversion or substitution, using athletics to rid the mind of sexual thoughts, and they have been quite successful. They keep the man active in a great club and in a large measure away from the stimuli, women. They preach a well known psychologic truth, "what gets your attention, gets you."

(4) The fourth consideration is control of infection itself. This has been attempted by:

(a) The creation of military police zones around mobilization camps of soldiers, with a view to restrict as much as possible prostitution, or to regulate or fully control it. The control of the sexual acts of a city or an army, is control in name only. It is an impossibility; it can be lessened or even made difficult, but it is an instinct that knows few obstacles.

Some commands on the Mexican border, where the encamped army was far from women and cities, established their own house of prostitution and venereal diseases were lessened, because the women were under constant examination for infection and the soldier had to patronize these women or go without. But in how many campaigns could these same conditions be duplicated. Germany, France and England have given up in despair the control of prostitution. It is a human impossibility, for it is an individual problem.

(b) The second means of control of infection is that of hygiene of the sexual organs. Few parts of the body harbor more infection than a long moist foreskin, and circumcision comes first on the list. From my personal experience in a big city dispensary, covering the past ten years, I have found but one venereal ulcer on a circumcised patient to fifty uncircumcised, and the same figures hold good in our present service. The delicate prepuce is torn or suffers a microscopic abrasion, and here we have a vaccination which nearly always "takes." In a few hours the mischief has been done, the spirochete have found the blood stream and lymph channels.

The best prophylaxis is a solution of bichloride of mercury 1:500, into which the penis and scrotum are dipped. After voiding the urethra should be irrigated with a solution of silver nitrate 1:3000. To make it more efficient this irrigation should be repeated in six and twelve hours, the second and third irrigation catching the microorganisms missed at the first treatment. An irrigation is far superior to an injection, as the urethra is distended, all folds obliterated and perfectly flushed mechanically.

(c) A third means of control is very frequent "short arm" inspection and punishment for infections. Men watched closely cannot hide these diseases in the acute stage, for manifestations are always present.

In conclusion, I would reiterate (1) that the sexual desire and the sexual act are mostly a question of stimulus, the presence of women, and can only be controlled in the absence of women.

(2) That commanders employ frequent inspection and employ the best efficient prophylaxis obtainable.

(3) That social diseases, while obtaining a low immediate mortality, are one of the most grave problems in handling large bodies of troops.

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RURAL SANITATION IN RELATION TO NATIONAL AFFAIRS IN TIME OF WAR.*

By T. D. Tuttle, M. D.
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State Commissioner of Health.

The latter part of August or early in September, 1914, the president of one of our older universities (I think it was Yale) returned from Europe and made a statement to the effect that the European war would be a war to starvation and the nation whose food held out the longest would win the victory. This statement seemed prophetic, made at such an early period in the war, but it is a recognized fact today.

When the statement above quoted was made, it was a matter of little interest to most American citizens. In fact, about the only interest it bore was to those who produced or dealt in food supplies, and to them it meant an increased profit in their business. Today the fact that food is the essential problem in this great war and is becoming daily more and more so is not a matter of profit and loss to this nation, but one of life and death, not merely physical but national life and death. Upon the question of food production will depend the question of whether we become the subjects of a Kaiser. The people of this country appreciate the acute and vital importance of the food problem, and yet the very foundation of food production, namely, man-power in the production of food, seems to have been overlooked to a large extent. I might better say the preservation of man-power has been overlooked.

We have just overwhelmingly subscribed for our first issue of Liberty bonds. Our people have answered without hesitation the call of the Red Cross for financial aid. We have enacted and are now enforcing a conscription law, providing for ten million soldiers to go to the front to fight in the trenches or in the open fields, as the case may be. We have provided without stint and without question of monetary cost for the protection of the health of these soldiers. We cheer them as they march to the concentration camps. Our girls, young women, yea, and our old women provide for them beautiful banners to carry to victory. Our musicians are drafted into the service to furnish music to cheer them on. The medical forces of our country are called upon to provide medical care for these men. The sanitarians are drawn upon to supervise the sanitary matters within the camps and to guard them from infection with preventable diseases. In fact, everything known to human ingenuity has been provided to protect the boy who is going to the front. And yet to my mind there is one important feature that has been neglected—the matter of providing him with food. This may seem an absurd statement, when we consider that our agricultural departments, our committees and commissions are daily urging our farmers to plant more wheat, more corn and more food-producing crops, and we are urging our boys and girls who are too young to enter the fighting ranks, and our men and women who are too old to follow the flag, to go to the fields to cultivate and harvest these crops.

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* Read before the Forty-third Annual Meeting of Oregon State Medical Association, Portland, Ore., June 28-20, 1917.

These young and old people will respond willingly and gladly deliver every ounce of man-power within their frames. They will respond to their country's call just as have the boys who have entered the fighting ranks. Many of them will sacrifice business interests, just as has the enlisted soldier. It is true they will not be subjected to the bullet and the shell and the deadly poison gases, but they will be subjected to dangers, tho not of a pyrotechnic character. There will be no scare head lines to announce an outbreak of typhoid fever among the boys and girls who have gone from the city into the harvest fields—an outbreak due to the fact that these, our farm soldiers, are not given the care and protection that is given to our military soldiers. And it is thru this failure to provide protection for the health of these farmer-soldiers that we are failing in a most vital point.

Imagine a family of six boys, three of them between 20 and 30 and three between 15 and 20. Note the different attitude of our Government and our people towards these two sets of boys. Three of them have enlisted in the militia. Immediately after their physical examination they have administered to them antitoxin and vaccines to protect them against every disease for which such protection is known. They are then taken to a training camp, where the best talent known in our country is concentrated to see that every sanitary precaution known to science is provided. The water supply of the training camp is kept under constant supervision. The food and its preparation is under the most careful surveillance. Sewage disposal, toilets, garbage, refuse, everything that can possibly be done to improve the sanitary conditions surrounding these young men is carried out with the most scrupulous care.

But the other three boys meet a very different consideration. They are too young to enlist in the fighting ranks. They have, however, enlisted as soldiers of the farm, those soldiers who must produce the food, fuel and funds for carrying on this great war. Yet attention is not given to this army of our nation. Have our committees and our commissions seen to it that each and every boy and girl that goes into the field is vaccinated against typhoid and paratyphoid fever, as are our soldiers who are going to the front?

But this is not all. There is no provision whatever for the supervision of the water or food supplied to this army of farmers, and this disposition to neglect internal dangers extends even beyond its influence on them. Ten million young men are of military age. How many of them will be called to the colors we do not know. But those who are called must be transported to concentration camps. How little care is given to the water and food products that these men will receive during the process of transportation across our country, and how little attention is given to the sanitary conditions under which they are transported. Certainly nothing like the provision that will be made for them when they reach the training camp. As a result, he may reach such camp already infected with typhoid, paratyphoid fever or other communicable disease, and thus cause an outbreak of such disease within the boundaries of this guarded encampment.

We have in this war two armies—one a food, fuel and funds producing army and the other a combatant army. The combatant army is absolutely dependent on the food producing regiment, and it is essential that this home army be given immediate and proper protection. It is an army radically different from the combatant army. Of the ten million young men who have signed up as a result of our conscription measure, probably half will be rejected on account of physical defects. Many of those who will be rejected would be glad to go to the front, but such defects eliminate them from the combatant army. But shall we say that they are not as true soldiers at heart as those who are passed by the examining surgeon?

In a small high school of one of our neighboring states, every boy in the senior class enlisted early after the first call to arms. They were a sturdy lot of boys and only one was rejected on account of physical inability. But this boy who was rejected did not lose heart. He bade goodbye to his school mates and announced that he would immediately enlist upon the farm. This boy is as true a soldier as are his classmates and is entitled to protection, but he is physically weak. He is more susceptible to disease than are the soldiers for whom every protection against disease is provided. He serves as an example of the soldiers who must come under the supervision of the health officials, for no other branch of our government, committee, commission or social organization has given them a single thought. They are either young or old or they are physically defective to such an extent as to render them more susceptible to disease than is the average man.

The first of May the health officers of forty-three states and one territory met at Washington to discuss this important matter, and came to the conclusion that the best results could be secured by providing for a Sanitary Reserve Corps, to be under the supervision of the U. S. Public Health Service. A resolution to this effect was presented and unanimously passed. It was presented to the medical committee of the National Council of Defense and immediately unanimously approved by them. The following afternoon it was unanimously approved by the National Council of Defense and on May 11 the following joint resolution was introduced in the Senate by Mr. Ransdell:

JOINT RESOLUTION.

To establish a reserve of the Public Health Service.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled;

Sec. 1. That for the purpose of securing a reserve for duty in the Public Health Service in time of national emergency there shall be organized under the direction of the secretary of the treasury, under such rules and regulations as the President shall prescribe, a reserve of the Public Health Service. The President alone shall be authorized to appoint and commission as officers of the said reserve such citizens as, upon examination prescribed by the President, shall be found physically, mentally and morally qualified to hold such commissions, and said commissions shall be in force for a period of five years, unless sooner terminated in the discretion of the President, but commission in said reserve shall not exempt the holder from military or naval service. Said officers shall consist of sanitarians, senior assistant sanitarians, and assistant sanitarians, and when ordered to active duty in the service of the United States shall receive the pay, allowances, and leaves of absence of surgeons, passed assistant surgeons, and assistant surgeons, respectively; Provided, That the secretary of the treasury may appoint for duty with said reserve employees in such number as the public interest may require and the funds appropriated may permit.

Sec. 2. That for the purpose of carrying out the provisions of this Act the sum of $300,000 be appropriated out of any money in the United States treasury not otherwise appropriated.

It is the function of the health officers in time of war, and especially in this war, to supervise and protect this vast army of food producers. We must expect an increase in disease per capita among them, because the stronger have been removed. We must enter our work with a zeal and a determination far in excess of that we have shown under any other circumstances. The eight hour law must be forgotten. Sixteen hours, at least, should be our day, every moment of which should be expended in educating the people of our rural districts, and by rural districts I mean any part of our country that is not under the control of an efficient city health department. We must teach them the importance of sanitary disposal of human excreta, the importance of protecting their district and individual water supply, that the "fine mineral flavor" in their well water may, in reality, be "manurial" instead of "mineral," the possible dangers of the contamination of these supplies with disease germs by alien spies. Imagine the glee which an enemy, knowing himself to be a typhoid "carrier," would pollute the water supply of an enemy. We must go into their homes and preach to them the gospel of sanitation.

Do you say, "how is this to be done when we receive such small compensation for our services?" I ask should you, with the small salary you receive, devote every moment of the present summer to preaching and teaching sanitation thruout your county, would you by such action be making as great a sacrifice as your brother practitioner, who is possibly younger and stronger than you, who has given up his surgical or medical practice to go to the front and care for the combatant soldier? If you are a true citizen of the United States of America, you will not question the compensation you receive for making every effort in your power to protect the life and health of the farm-soldier. You will feel that you are delivering to your country the bit that nature has enabled you to deliver. You will sleep better and feel better and be happier as a result of such efforts, and when the reorganization of Governments comes, as must be the result of this world-wide war, you will be entitled to take part and have a say in the reorganization.

Sit down in your little office and say that, because you receive only a small compensation as local or county health officers, you will not take part in this great combat to protect the life and health of these farm-soldiers, and you will have no more right in the say as to what shall be done in the way of reorganization at the end of this war than will the man who carries his can of typhoid germs around with him with the hope that he can poison the water supply of your city or community. You will be no more entitled to the benefits that will accrue to this nation as a result of carrying this great war to a successful termination than would the man who sat quietly by and saw his country's principal munition factory blown up by a spy.

I say this is the duty of the health officer, but who is the health officer? Is he merely the one whom some mayor has so designated, for political reasons? Is he the one who, because the county commissioners could find no one else to take it, accepts the position? Or is he every member of this great profession who has from the time of Hippocrates done its best to render to humanity the service which he is unable to render as a result of the education given him? I say that every member of the medical profession thruout this great country is responsible for teaching hygiene and protecting the health and lives of those who are producing the food, fuel and funds to carry on the war, and he who neglects this function is a slacker with a streak of yellow from one end to the other.

There will be no occasion for a special draft of medical men; the regular profession will fill the ranks to overflowing. All they ask is that they be not called to sit around a camp and do nothing, while their families go hungry. And those of us who are rejected because of age or infirmity will respond to our country's call and give our time, our knowledge, our life, if need be, to the farm-soldier. Our duty is clear; this weaker army will be protected against disease; the food, fuel and funds producers will be given medical care and sanitary protection by the regular medical profession of our country.

WAR SURGERY ABROAD AND AT HOME.*

By R. W. Corwin, M. D.
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You will pardon me for making this little talk more or less personal, being statements rather than arguments on account of limited time.

My trip to the war zone of the Allied countries was suggested and taken for the purpose of studying war surgery, applicable to industrial surgery. Many hospitals were visited, the methods of scores of surgeons, internists and specialists observed and studied. On returning home many war surgical methods were introduced at Minnequa Hospital, with the result of shortening time of healing wounds, lessening the loss of time to patients and increasing their time of usefulness to the public.

Little progress in war surgery had been made in the half century previous to 1914. When war began, England and France were totally unprepared, and early poor Belgium nearly annihilated. I quote: "When war broke out the French were better prepared than the English and, of course, this remark applies equally to the medical service of the army. But in many ways France was pitiably unprepared, so far as caring for the sick and wounded was concerned, at the outset of hostilities. Like Great Britain, she had to evolve a medical service system to meet exigencies. In August, 1914, there were approximately 20,000 medical practitioners in France and of this number some 14,000 have been mobilized, while 1500 or thereabouts have been killed or rendered unfit for service." (Internat. Jour. of Surg. July, 1917, page 253.)

Imagine the desperate situation of the Allies! Few experincd surgeons, nurses untrained and hospital facilities inadequate; wounded soldiers arriving from the front by thousands, tuberculosis and fevers spreading like plagues; trench and gas infection little understood. On the other hand, Germany was thoroly prepared. They had 100,000 surgeons and 110,000 nurses ready for active service and hospitals equipped for any emergency.

In England, in 1916, the treatment consisted largely of Bipp paste and salt tablets, or salt confined in a double sack of gauze. The objection to the paste was, it did not abort or control infection and prevented the wound from healing by first intention; the objection to salt was, it promotes a flow of serum which the exhausted patient cannot afford to lose. The Dakin-Carrel treatment was not popular. I saw Dr. Dakin in London. He told me of Carrel's work and his new preparation, dichloramine-T, and advised taking some home, but I was unable to procure it in England.

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* Read before the Twenty-third Annual Meeting of Utah State Medical Association, Salt Lake City, Utah, Sept. 12-13, 1917.

In France, at the beginning of the war and for two years later, the antiseptics in vogue were iodine, permanganate of potash, bichloride of mercury, peroxide of hydrogen, etc. But they were unsatisfactory and we now know why. They neither prevented nor checked infection, and in many instances increased infection by destroying healthy tissue.

Practically every wound received in battle is an infected wound, 80 per cent. of amputations being due to infection. An antiseptic that would abort infection, kill destructive microbes, protect the normal, encourage the growth of the healthy tissue and hasten healing by first intention was demanded. Dakin furnished the article—neutral hypochlorite—and Carrel the means of application, but as late as 1916 France was not aware of the benefits of this marvelous treatment. What these two scientists have done for France this generation never will be able to appreciate.

As stated, the Dakin-Carrel treatment was unpopular except at Compiegne, altho at the Rond Royal Hospital it had been in use for several months and Dr. Carrel had called the attention of the profession to the benefits of the Dakin solution and the advantages of the Carrel application. Yet the Dakin-Carrel treatment was not found in other hospitals of France. Dr. Depage, however, was using it in his large and splendid hospital at LaPanne, Belgium.

Up to this time the French were skeptical and the Americans in France indifferent regarding the solution. Soon the Americans in charge of the French hospitals sent representatives to Compiegne and the new germicide was taken back and became part of their regular treatment. We are told that it has been carried across the Channel. At Compiegne Dr. Carrel was healing wounds in a marvelous manner. The hospital at this city was formerly a hotel, where the royalty and friends of Europe loved to congregate for the chase and hunt in the great forests of this portion of France. Dr. Carrel, early appreciating the benefits of Dakin's solution, skillfully devised scientific methods of applying the germicide by means of tubes and reservoirs. The hotel lent itself admirably to hospital purposes. The parlors, dining rooms and porches were ideal, and even the bar room found a legitimate use. At the bar there was a pump. Dr. Carrel commandeered it and with his customary ingenuity pressed it into service by attaching pipes that were connected with tubes in the wounds, and pus instead of beer was on tap at the bar.

Later these crude appliances were replaced by more scientific apparatus with which the world today is familiar. At Ris Orangis, Dr. Joseph Blake had devised most interesting overhead supports for treating wounds and fractures. At the American Hospital, Paris, was found a display of facial wounds, scientifically interesting but ghastly and repulsive. Here the surgeons and dentists (Drs. Hutchison, Powers and Hays) became intimately associated. The results of their efforts deserve highest praise.

At LaPanne, Belgium, Dr. Depage had a thousand-bed hospital, equipped with modern devices, including x-ray and pathologic laboratories and experiment stations, shops for making instruments, braces, artificial limbs, a sterilizing plant for cleansing men and clothes, and destroying body pests that would be a credit to any army or nation; and a staff of surgeons and assistants second to none.

Returning home full of enthusiasm, the Dakin-Carrel treatment and the Blake splint (modified by Dr. Senger and the hospital mechanic) were at once installed at Minnequa Hospital. A little later, the ambrine treatment for burns and superficial wounds was introduced. Results were very satisfactory and all was going well, and it was felt that the last word in the treatment of wounds had been uttered, when a very kind letter was received from Mr. Rockefeller, Jr., enclosing a letter from Dr. Dakin, making suggestions regarding the use of dichloramine-T.

The new Dakin solution and the Carrel modified technic are now the latest. What more beneficial surprises are in store, who can say? The more the better, however.

The new Dakin has advantages. The tubes, as used by Dr. Carrel, may go but the important lessons taught by him can never be forgotten, i. e., the technic of handling dressings, the constant knowledge of the bacterial growth, and when to close a wound with safety.

At Minnequa we have used Dakin's solution in abdominal wounds, where a germicide is needed and hemorrhage not feared. One secret of our confidence is having the hospital chemist prepare all our solutions. Today the chemist is as much a part of the hospital staff as the pathologist.

THE OUTLOOK FOR SURGERY.*

By H. N. Mayo, M. D., F. A. C. S.
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We are in the midst of one of the periods which mark epochs in the development of surgery. The law of compensation decrees that good should come out of evil. Construction is the complement of destruction.

The physical horrors of war have always spurred those of our profession to the discovery of better methods for the alleviation of those horrors. The rage of Mars has always inspired Esculapius to his highest endeavors.

Whole libraries of books will be written on the surgical practices of this period. Methods which demonstrate their value under the acid test of use will be described to us in detail by those best equipped to explain them—their discoverers.

My fellow surgeons, I take it, are better or as well informed as I concerning the recent technical advances in the science and art of surgery, hence it would be presumptuous of me to offer a paper dealing with particular methods of procedure on which I have nothing original to contribute. I venture only to correlate some of the influences now acting on our profession and to share with you some of the thoughts on the outlook for surgery which have presented themselves to me.

I feel safe in hazarding the statement that the outlook for material advancement is very bright indeed. Many elements have been considered in reaching this conclusion. A fundamental force making for betterment is the higher educational standard which the American Medical Association, the Association of American Medical Colleges and other scientific organizations have done so much to establish. A comprehensive knowledge of the languages, arts and sciences as a preliminary to a specialized education in medicine and surgery is of great importance. Insistence on this preparatory training is certain to eliminate thousands of ill qualified medical students and scores of poorly equipped medical colleges. At the same time it encourages the smaller medical institutions whose aims are high to consolidate their resources and so attain greater success in their conscientious efforts to educate young men. Furthermore, the decrease in the number of medical colleges operates to suppress many so-called "professors" of medicine and surgery who were incompetent, mercenary and unfit for the honorable calling of the profession.

The number of graduates in medicine from all the standard and substandard schools combined has greatly decreased, and the proportion of practicing physicians to the whole population is now and will be very much smaller. In consequence competent licentiates may look forward to acquiring practices in less time and with less heart-breaking effort than they would have been able to do at any time in the last thirty-five years.

There will be greater rewards for competent men, not necessarily in greater fees, but in a larger clientele that in the aggregate will yield reasonable incomes to competent surgeons. Nor will they be compelled to labor under the handicaps which have worried practitioners in the past, since federal laws have so largely eliminated irresponsible advertising quacks, suppressed the untruthful advertiser of patent nostrums and otherwise interposed to prevent the exploitation of the public by fraudulent pretenders. This good work is being supplemented in many of the states by the organization of medical boards with authority to deal with illegitimate practices.

We all recognize asepsis as the foundation of modern surgery. The superstructure is antisepisis. With these two cardinal principles, embellished by knowledge of the various technical branches into which the science is divided, surgery will take its station in the world of learning where it belongs.

The world's great war is dragging from the seclusion of their private practices the world's greatest surgeons. All the powers of genius are being strained to repair so far as possible the ravages of the conflict. Names we please to honor are enrolled in the medical staffs of the armies and voices we delight to heed are heard in the councils of the nations.

Under these influences "conservative surgery" has taken on a different meaning from that we are accustomed to give it. We have known a conservatism that was a negative quantity and meant inaction. Its purpose was to conserve the ways and prejudices of the past. We do not care about that kind of conservatism any more. What we want to conserve now is the living power, working power and fighting power of the units that compose the nation.

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* Read before the Twenty-third Annual Meeting of Utah State Medical Association, Salt Lake City, Utah, Sept. 12-13, 1917.

This conservation is subject to classification as "reparative" and "reconstructive." Both call for action in every sense of the word. Sometimes the more radical the action the more conservative is the surgery.

The nations of the world are accepting for enlistment in their armies men who are defective in many ways, but who can be restored to normal physical condition by means of intelligent surgery. Hernias, benign new growths, varicosities, etc., do not exclude from the army and come in the reparative class.

Traumatisms as a result of active war must be cared for to conserve the strength of the army and, by the same token, to conserve human life. This may also be reparative, but in many cases there must be reconstruction and men are needed who have the skill to reconstruct portions of the anatomy that the injured may again become effective in war and presentable, useful and happy citizens in time of peace.

Initiative in the antiseptic treatment of wounds has caused two names to be as widely known and highly honored as the names of the greatest commanders. The importance of other innovations will be as much appreciated when we have an opportunity to study and apply them.

In the "close-up," which is the only view we have had of the great war, the palliatives evolved by surgical skill look pitifully inadequate in such an inferno of irremedial suffering, but when the picture is seen in the true perspective the proportions will be reversed. Long after the participants and spectators in the war have passed "like wind across the waste, we know not whither, willy-nilly blowing," the surgical methods generated by the fury of the conflict will be prolonging the lives and alleviating the sufferings of men, women and children. Who knows but that in the final equation the afflictions averted will outweigh the misery of the war?

I have spoken of the services rendered by medical organizations in raising the standard of the schools. I wish to mention also the work being done by the American surgical societies to eradicate the abuses that have marred the practice of a noble profession.

We cannot deny, much as we deplore, the fact that many unnecessary operations have been done, that many necessary operations have been poorly done and that serious results have ensued from the inability of operators to handle properly a surgical pathology. It is one of the most hopeful signs for the future that members of the surgical societies are cooperating with each other and with the managements of hospitals to exclude from the operating rooms unskilled and incompetent practitioners. Some societies require that diagnoses be made before operations are undertaken and that postoperative diagnoses be appended. An eminent surgeon and teacher recently said that the Golden Rule should govern in our surgical practice and that we should not advise a surgical procedure we would not ourselves undergo under the same conditions.

Our worthy organizations are gradually extending their control over the matter of exorbitant charges and discrediting the equally grave evil of immoderately small fees. The subject of commercialism has been thoughtfully considered and no self-respecting surgeon of today is guilty of the fee-splitting sin or the adroit advertisement. The frank discussion of these topics among surgeons in their own societies is evidence that there is need for their consideration, tho the truly scientific, painstaking, careful and conscientious man needs no external restraint.

The higher culture and the association that studious men seek with one another, the exchange of opinions and consideration of scientific subjects and, last but not least, the consideration of business from an ethical standpoint, are bound to be factors in the advancement of all surgeons and surgery to a place in the confidence and esteem of mankind much higher than they have attained in the past.

Venereal Disease in Camps. J. B. Clark, New York (Journal A. M. A., Dec. 29, 1917), describes a follow-up method for the control of venereal disease among soldiers which has been used in Camp Lee, Va. It consists first in a running record on cards giving an outline of the entire activity of the genitourinary service at the base hospital; second, a means by which all patients can be observed and their records continued after their discharge; third, and most important, a method of restricting all infected patients from absenting themselves from the reservation, until on examination such patients are found free from infection and may safely be allowed a pass. The forms used are shown in the order of their importance, beginning with the patient's condition on admission and showing the changes that occur in the patient's case as long as he is under observation.

SURGICAL GOITER.*

By J. Earl Else, Ph. G., M.S., M.D.

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The indication for operation upon the thyroid gland may be classified as: (1) cosmetic, (2) mechanical, (3) toxic and (4) malignancy. With the first and last and with the infective lesions I shall not deal in this paper.

Mechanical. The mechanical indications for thyroidectomy are all due to pressure. The trachea, esophagus, nerves, particularly the recurrent laryngeal, and adjacent blood vessels may be involved. Pressure upon the trachea is the most serious. In the chronic progressive cases deflection without symptoms is first produced. This is followed by lateral compression which may or may not be accompanied by irritation of the mucosa. Extreme cases usually show such an involvement. The condition is sooner or later accompanied by a cough usually dry in character. As the compression increases, difficulty of expiration appears and the lungs become emphysematous.

In extreme cases much difficulty may at times be experienced with respiration, due to edema of the mucosa producing almost a complete occlusion and very rarely a complete occlusion with death. Death from this cause must not be confused with suffocation due to the sudden enlargement of a goiter within a band about the neck. Rapid enlargement of the thyroid gland is due usually either to hemorrhage or congestion. In the latter case there may be a resulting increase in the colloid material.

When the goiter lies beneath the sternum, pressure symptoms are present earlier and are more persistent. The trachea is most frequently involved but the recurrent laryngeal, phrenic and pneumogastric nerves or the jugular veins may be compressed.

Intrathoracic goiter may consist of: (1) a single enlarged lobe, the other lobe being in the neck and either enlarged or normal in size, (2) both lobes, the entire thyroid gland being substernal and enlarged, (3) portions of one or both lobes the remainder lying above the sternum, in which case there is often a constriction so at first one may not recognize the substernal portion as a part of a suprasternal lobe but think it a separate lobe and (4) a true substernal lobe. This is a congenital anomaly, there being a development of an atypical lobe below the isthmus. In this case the lateral lobes are present.

The substernal goiters are usually non-toxic, the pressure symptoms being the only symptoms if any that are present. When toxic it may be of either of the toxic types.

The following case furnishes a typical example of the non-toxic type producing mild pressure symptoms:

Patient, No. 1085, (referred by Dr. McDowell) nurse, white, female, U. S. A., single, age 41.

Diagnosis. Substernal goiter. Complaint: Constant loose non-productive cough.

History. Present trouble began seven years ago with a cough which has been present constantly and has increased in severity. She coughs at least every five minutes and sometimes has spasms of coughing which last until she is nearly exhausted. She never is able to raise anything. She feels weak and is unable to do hard work. Appetite fair. Bowels regular. Menstruation negative. Does not sleep well because of cough. Does not have palpitation of the heart.

Previous Illnesses. Typhoid twenty years ago, from which she recovered so slowly that it was suspected that she was tuberculous. Pneumonia three times previous to having typhoid. Several years ago had a tumor mass about the size of a walnut removed from the base of the tongue. She does not know the nature of the tumor.

Family History. Mother and father over seventy living and well. Two sisters living and well. No other cases of goiter in the family.

Physical Examination. Patient is average size, under nourished, not strong and is anxious about her condition. Skin pasty. Pulse 84, regular, fair tension. Temperature 98.4°. Respiration 22. Head: Front teeth project, otherwise negative. No exophthalmos.

Neck: Thyroid gland. There is dullness under the upper portion of the sternum extending 3.5 cm. downward from its upper border and 1 cm. on either side. On palpation nothing is to be felt of the thyroid gland on the right side in the usual location. When the patient swallows a mass is felt to rise from under the sternum. The left lobe of the thyroid gland is normal in size but lies low. Chest: The cardiac dullness begins at the third rib and extends from the middle of the sternum to the left nipple line. Tones are normal. The lungs give a hyperresonant note everywhere. Breath and voice sound normal but a squeaky rale is heard on the left side upper portion anteriorly. Abdomen negative. Extremities negative. Reflex negative.

X-ray examination showed a mass lying behind

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* Read before the Twenty-eighth Annual Meeting of Washington State Medical Association, Spokane, Wash., June 20-22, 1917.

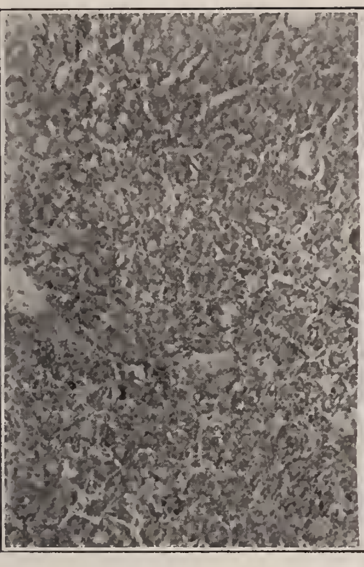

Fig. 1. Fetal Adenoma.

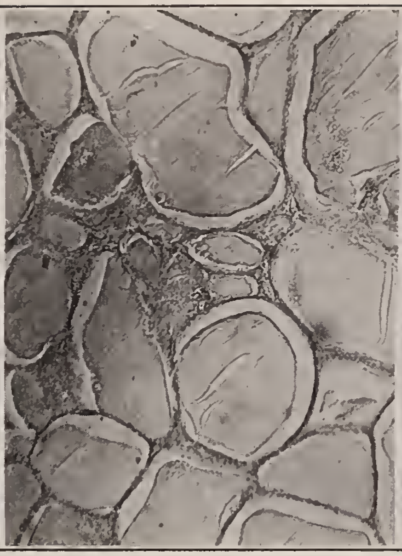

Fig. 2. Colloid or Adult Adenoma.

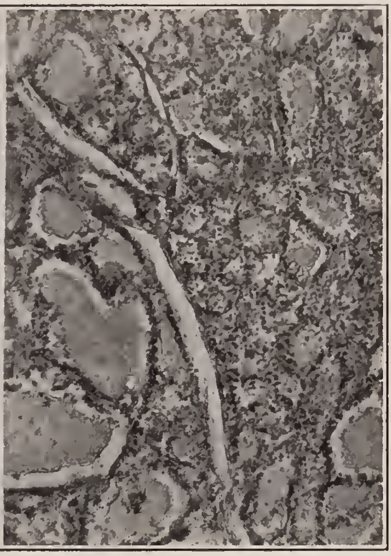

Fig. 3. Mixed Adenoma

the sternum and extending down to the level of the fourth dorsal vertebra and about 9 cm. in width. It rises upon swallowing.

Operation. Under ether anesthesia made a transverse incision extending thru the skin, platysma, fascia, sternal hyoid, sternal thyroid and sternal attachment of the sternocleidomastoid. The right lobe of the thyroid gland, which was found to lie substernal with its center in the median line, was brought up; the superior and inferior thyroid arteries were ligated, the isthmus clamped in the center with two clamps and incised. The right lobe was then removed, leaving the posterior capsule. The edges of the posterior capsule were drawn together with catgut. The exsised muscles were reunited with mattress sutures and the wound closed after the insertion of one drain in the neck and one in the chest. There was free drainage for the first twenty-four hours. The patient made an uneventful recovery and the cough showed considerable improvement, altho it did not completely disappear.

Toxic. Hyperthyroidism may be either functional or organic. Organic hyperthyroidism may be due to either benign or malignant processes, usually the former. Benign hyperthyroidism is of two types: (1) exophthalmic or hyperplastic goiter, which is a distinct clinical and pathologic entity and (2) toxic or cardiovascular goiter which clinically appears to be an entity but upon pathologic study is found to be due to at least three entirely different pathologic lesions, viz: adenoma, adenomatosis and regeneration or compensatory hyperplasia.

In the toxic or cardiovascular goiter the symptoms are the same in the different pathologic varieties and, excluding an examination of the neck, it is impossible to determine the lesion from a clinical examination. Examination of the neck often enables one to determine as in adenoma, that small nodular tumor masses may be felt. In adenomatosis a single more or less diffuse enlargement is present and in the compensatory hyperplastic type the process has often developed in colloid goiter where pressure atrophy has made the gland incompetent, so that, in the presence of a colloid goiter showing symptoms of this type, compensatory hyperplasia would be suspected. The types, however, may be mixed, so that prognostication of the pathologic type is by no means certain. Neither can one from a pathologic examination of the gland itself determine that there were clinical manifestations present, for any of these lesions may be present and not produce symptoms.

Adenomata are new growths within a capsule and may be single or multiple. The process begins with the formation of single rows of spheroidal epithelial cells, usually arranged in rings without lumina but sometimes in two parallel rows touching each other and corresponding to acini or tubules. Later the cells become more cuboidal and begin to secrete colloid material which is deposited in the center of the group separating the cells and thus forming a lumen. As the secretion continues the size of the acinus increases. Early, when there is little or no colloid being secreted, the tumor is spoken of as a fetal adenoma. (Fig. 1.) Later, when all or nearly all of the acini contain colloid material, it is known as a colloid or adult adenoma (Fig. 2) and the intermediate stage is spoken of as a mixed adenoma. (Fig. 3).

In the fetal adenomata the cells are spheroidal and the acini have no lumina. In the colloid or adult adenomata the acini contain colloid material and often show great variation in size, the variation depending upon the amount of colloid material present. In a general way the epithelial cells show variation with the size of the acinus to which they belong. In the acini which are just beginning to secrete they are spheroidal, approaching the cuboidal shape. In the active acini they are cuboidal, approaching a columnar type. In the distended acini they are being flattened out laterally by pressure and in extreme cases the cell may be so thin that its wall bulges at the location of the nucleus.

In adenomata producing clinically toxic manifestations degeneration is more apt to be present; however, degeneration may be absent or it may be present in cases without symptoms.

Adenomatosis is a pathologic state, in which the microscopic picture resembles that seen in adenomata, particularly of the mixed type, but in which apparently the new growth has been diffuse in its origin instead of from a single point as in the adenomata. Hence there is no capsule, for the capsule of a tumor is not a part of the tumor but consists of the connective tissue which occupied the space now occupied by the tumor and which, having been pushed before, becomes densely packed together. The parenchyma being less resistant disappears by pressure atrophy. In adenomatosis, the growth being diffuse in origin, the connective tissue is not pushed outward from a given point and thus no capsule is formed. Here as in the adenomata one can not tell from the microscopic appearance whether toxic symptoms were present or not.

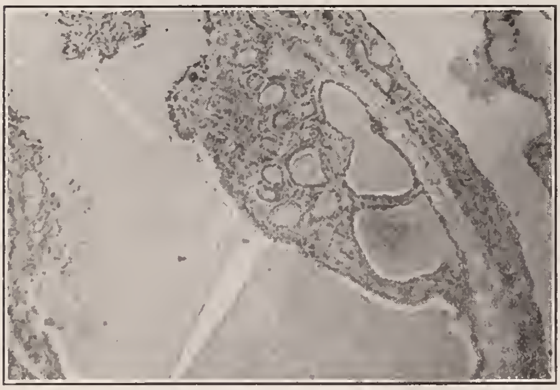

Fig. 4. Compensatory Hyperplasia.

The regenerative or compensatory hyperlastic type (Fig. 4) is the most interesting of the group. It is the result of the failure to stop growing of a process begun to overcome a deficiency of secretion, resulting from atrophy or the diminution in the amount of secretion absorbed from any other cause. In a case of beginning myxedema a compensatory hyperplasia may begin which, lacking limitation of growth, may continue until there are so many newly formed acini that symptoms of the cardiovascular type may not only appear but may become extreme. In a case of colloid goiter the pressure within the overdistended acini may become so extreme that atrophy of the epithelium results and a compensatory hyperplasia develops which grows until the patient becomes toxic. The regenerative type, like adenoma and adenomatosis, may be present without symptoms.

Clinically these three different pathologic types produce manifestations that are alike and which resemble the symptoms produced by other slowly administered toxic substances. The symptoms are slow in developing. It requires, according to Wilson and Plummer, an average of over fourteen years for the disease to reach its height after the first evidence of thyroid enlargement. The latter appears on an average at about twenty-two years of age according to these authors. Exophthalmos and the acute toxic symptoms seen in exophthalmic goiter are absent but there is slow developing cardiovascular manifestations, in which later there may be quite marked cardiac hypertrophy, a systolic murmur, irregularity of beat and an increased blood pressure.

Early these cases should receive medical rather than surgical treatment but late, in my experience, it requires surgery of even more radical type than does exophthalmic goiter. The following report is that of an advanced case:

Patient No. 791, housewife, white, female, U. S. A., married, age 54.

Diagnosis. Toxic or cardiovascular goiter. Complaint: Stomach trouble, loss of weight, joint trouble and palpitation of the heart.

History. At twenty years of age, following birth of triplets, had nervous breakdown, accompanied by tremor of hands and feet, palpitation of the heart. Was infected at time of confinement. Husband and all three babies died within the next three months. Married again at twenty-five. Child, born three years later, lived one year and died of "brain trouble." At thirty-four second nervous breakdown. Patient had sinking spells, rapid heart and indefinite pains. Stomach trouble began at this time. At forty-eight following exposure had severe bronchitis followed with "heart trouble." Had to be propped up in bed four months.

In addition to the above patient has had the grip several times and pneumonia when a girl.

Menstruation began at twelve. Periods fairly regular until last fall, when the interval, duration and amount of flow increased. Two pregnancies, both confinements difficult. Triplets the first time. Bowels move one to three times daily. Appetite good. Has lost twenty pounds in the last two years.

Family History. First husband died of pulmonary tuberculosis. One sister died of carcinoma of the liver. Father of valvular lesion at seventy-one. Mother died at seventy-five, cause unknown.

Physicial Examination. Fairly well nourished woman. Pulse 92, regular. Respiration and temperature normal. Head and neck: No exophthalmos. Small nodule in the right lobe of the thyroid gland but gland not otherwise enlarged, if anything smaller than normal. Chest: Lungs negative. Heart dullness extends from the left sternal border 10 cm. Systolic murmur at the apex transmitted to the axilla. Abdomen: Liver extends two fingers below costal margin. Right kidney palpable. Vaginal examination negative. Nervous. Reflexes exaggerated. Tremor present.

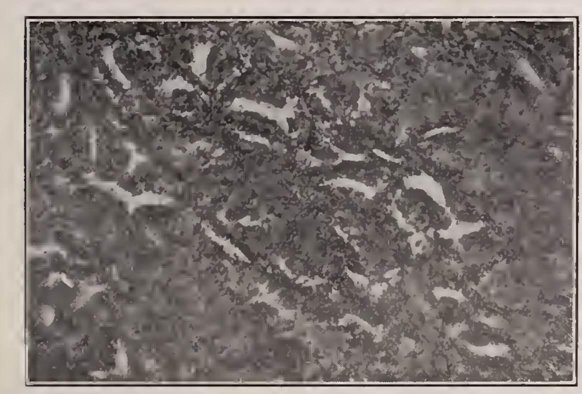

Fig. 5. Exophthalmic or Parenchymatous Goiter. Early Stage.

X-ray examination of the stomach showed the greater curvature three inches below the iliac crest. Empty in four hours. An Ewald test meal showed a total acidity of ten. No free hydrochloric acid but a trace of lactic present.

Operation Oct. 8, 1916. The superior thyroid artery was ligated. After a marked reaction the patient gained somewhat in general condition but continued to lose weight. Nov. 6, the right lobe and isthmus of the thyroid gland were removed under local anesthetic, leaving posterior portion of capsule. There was less reaction than after the primary ligation. The patient gained until the middle of February, when the former symptoms began to recur. April 5, under ether anesthesia, the left lobe of the thyroid gland was removed, leaving the posterior capsule. There was but little reaction. The patient gained rapidly. At present she feels the best she has felt for years and has regained her lost weight.

Exophthalmic or parenchymatous goiter shows both hypertrophy and hyperplasia. The process is diffuse. The epithelium is tall columnar in type. Papilloma-like masses extend into the acini which are small and either empty or contain a faintly staining colloid material. The explanation of this is that the secretion of the thyroid gland is absorbed as rapidly as secreted. It would seem to indicate that the colloid material inhibits rapid absorption, as in colloid goiters it abounds in large amounts and the acini are seen markedly distended in contradistinction to the exophthalmic variety, where it exists in small amounts and the acini are empty or nearly so.

Parenchymatous goiter runs a definite course which pathologically can be divided into three stages: First, the early stage in which the acini contain but little secretion and which takes but little stain. (Fig. 5) Hyperplasia is evidenced by the projecting papillomatous masses into the acini. Second, advanced cases are manifest by a more marked hyperplasia. The papillomatous masses which are greater in number and size may entirely fill the acini. The acini are larger, containing more secretion which stains deeper than in the early stage. This increase of colloid material is a forerunner of the third or regressive stage (Fig. 6), in which the acini show distention with deeper staining secretion. The cells show atrophy and desquamation.

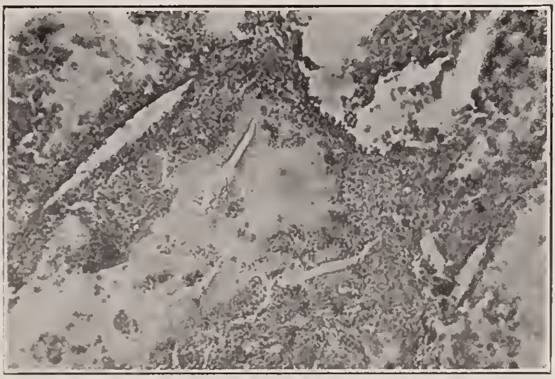

Fig. 6. Exophthalmic or Parenchymatous Goiter. Third or Regenerative Stage.

Clinically the symptoms of exophthalmic goiter correspond very closely to the pathology. It has a rather definite clinical course which on an average requires about nine months from its onset until it has reached its zenith, after which, as regressive changes take place, the symptoms regress and as stated before the patient may even show the signs of myxedema which sometimes become pronounced, resulting in death. The average age of onset is thirty-two years, according to Wilson and Plummer. The earlier the disease develops the more acute does it become and the more pronounced is the hyperplasia. Of acute exophthalmic goiter the following case is a typical example:

Patient, No. 879, housewife, white, female, U. S. A., married, age 23.

Diagnosis: Acute exophthalmic goiter. Complaint: Palpatation of the heart. Exophthalmos. Tires easily. First noticed enlargement of the neck about four months ago. Two weeks later noticed bulging of the eyes. The past two months heart beat rapidly upon exertion. Appetite good. Constipated. Sleeps well. Menstrual History: Menstruation irregular. First day painful. Never pregnant.

Physical examination: Well built, well nourished young woman. Pulse 90, regular. Respiration and temperature normal. Head and neck: Eyes protrude. White visible both above and below. Upper lid lags. Thyroid gland shows a moderate enlargement. Both lobes equal in size. Diameter of the neck 32 cm. Visible pulsation present. Bruit heard over right lobe. Chest: Cardiac dullness begins at the fourth rib above and extends from the center of the sternum 13 cm. to the left. Apex beat is strong. No murmurs present. Abdomen and vaginal examinations negative. Extremities: Palm sweaty. Nervous. Reflex normal. Fine tremor present.

Flouroscope examination shows the left ventricle enlarged. No substernal shadow.

Operation: The right superior thyroid artery was ligated under local anesthetic. The patient showed considerable reaction and then improved steadily. Three weeks later the right lobe was removed, leaving the posterior capsule. The patient made a complete recovery with the exception that eyes only partially receded.

In the matter of technic I wish to emphasize the importance of preliminary ligation of the superior thyroid artery in severe toxic cases. The shock from thyroidectomy and the length of time of convalescence is usually much reduced by such ligation. The ligation should be done under a local anesthetic. After the ligation the patient should be watched until improvement ceases, which in my experience requires two weeks to three months and then the thyroidectomy should be done. In some cases one can wait much longer but if the symptoms recur the benefits to be derived are lost. Ligation is not a curative operation. It is only a preliminary procedure. A case cured by ligation in my judgment is a medeical case that should not have been operated upon for there is an entire reestablishment of the circulation thru the collaterals in a few weeks time.

815-818 Selling Bldg.

OPERATIVE TREATMENT OF GOITER.*

By Wallace I. Terry, M. D.

SAN FRANCISCO, CALIF.

Professor of Surgery, University of California.

A brief review of the various kinds of goiter seems wise so that we may better discuss the operative treatment. The commonest types of goiter which we see are the adenomata of the thyroid, either single or multiple. These are tumors of the gland and apparently bear out Cohnheim's theory of tumor production, in that they are probably all derived from fetal "rests." Microscopic examination of the thyroids of infants, particularly from goiter districts, often demonstrates the presence of small groups of encapsulated cells which are presumably minute adenomata. Probably, then, we are not far from the truth if we consider all adenomata of the thyroid as congenital tumors.

Simple colloid goiter is also quite common. In this type there is an increase in the size of the gland and the individual acini are dilated, filled with colloid, while the epithelium is low and flattened. Fusion of acini often leads to the production of cysts filled with colloid. These cysts are to be differentiated from those occurring with adenomata which will be further considered.

Hypertrophy of the thyroid is seen in two typical forms—the adolescent goiter, and the exophthalmic type. The adolescent goiter is vascular and soft and contains a considerable amount of colloid, while the exophthalmic goiter is firm but vascular and contains but little colloid. The adolescent goiter is in a way a work hypertrophy. With the beginning of menstrual life, the thyroid gland is called upon for more secretion. So, too, do we see similar enlargements of the thyroid during pregnancy and we consider them as physiologic in the majority of cases. The hypertrophy and hyperplasia which is present in the exophthalmic type has gone beyond physiologic limits and produces a train of symptoms which we characterize as Graves' or Basedow's disease, exophthalmic goiter or hyperthyroidism. The characteristic microscopic picture shows the acini lined with high columnar epithelium, the colloid diminished in amount and usually bud-like projections, covered with epithelium, in the lumina of the acini.

Malignant goiter is simply a degenerative change of the thyroid. Thus we may have carcinoma, sarcoma or mesothelioma. In some cases the malignant tumors resemble both carcinoma and sarcoma and an exact pathologic diagnosis cannot be made.

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* Read before the Forty-third Annual Meeting of Oregon State Medical Association, Portland, Ore., June 28-30, 1917.

There are many classifications of goiter, with subdivisions based on anatomic, pathologic or physical peculiarities, but it seems to me they can all be grouped under the types that have been mentioned. Goiters are often subject to other degenerations, aside from malignancy, such as calcareous, fibrous, cystic, hemorrhagic or inflammatory changes. The adenomata are more apt to be involved in these changes, except the infections, than are the other types of goiter. Particularly is this the case with the adenomatous cysts. A hemorrhage occurs within an encapsulated adenoma and a cyst usually develops as a consequence. Hemorrhages within adenomata are often the cause of the rapid growth of such goiters.

The successful medical treatment of goiter is limited in a marked degree. Most adolescent goiters respond readily to small doses of iodine and operative treatment is only necessary when the adolescent type changes into the exophthalmic form and does not improve under intelligent medication. Then again an adolescent goiter may be complicated by a preexisting adenoma and fail to be cured by medical measures. It should be remembered that iodine should be cautiously used in the treatment of any goiter. Large doses may so activate the gland that hyperthyroidism is produced, a condition recognized by Theodore Kocher years ago and called by him "iodine-Basedow."

Simple colloid goiter is amenable to medical treatment in a small proportion of cases, particularly the soft, diffuse forms. The large colloid goiters usually require operation.

The adenomata are not curable by medicines nor by the x-ray. Too little attention has been paid to the importance of the adenomata in the production of hyperthyroidism. Beginning as small masses in the thyroid, they often enlarge after puberty to a moderate size without causing any unfavorable symptoms. Seldom before the patient has reached the age of thirty to thirty-five, nervousness and slight tachycardia may be noted. As a rule these symptoms increase with the lapse of time and the patient is found to have a rapid pulse, the heart muscle is damaged, the nervous system is activated to such a degree that we have mental irritability and depression, tremors, increased reflexes, and vasomotor disturbances such as excessive perspiration and erythemas. Metabolism is increased, the appetite is large, but diarrheas may cause a loss in the patient's weight. Exophthalmos, however, is absent, when the toxic symptoms are due to adenomata. When exophthalmos is present, we find that the thyroid itself shows hyperplasia of the epithelium and that the adenomata are not the only cause of the hyperthyroidism.

Thus it seems probable that the toxic principle from adenomata is not the same as that from the hyperplastic thyroid. The general severity of all the symptoms is always less than in the advanced cases of Graves' disease. We owe much of our knowledge regarding thyroid adenomata to the carefully worked-up material of the Mayo Clinic and to the recent researches of Emil Goetsch. The latter has found that the number of mitochondria —those minute particles within the protoplasm of cells—is greatly increased in the adenomata which are producing toxic symptoms. They are also increased in the cells of the hyperplastic goiter.

Large goiters, particularly the adenomata, are also apt to produce symptoms from pressure, referable to the larynx, trachea, esophagus or the blood vessels or nerves. It has been observed in the Mayo Clinic that "paralysis or paresis of one or both vocal cords is present in 19 per cent. of cases of goiter." The substernal or intrathoracic goiters may cause serious damage to the heart by compression of the large blood vessels close to that organ.

The treatment of exophthalmic goiter should be carried out by the physician and surgeon cooperating for the good of the patient. It should be recognized that the disease is subject to rises and falls in severity without any treatment whatever, and one should be careful in ascribing improvement to this or that medical treatment. In my opinion medical treatment is seldom permanent and surgery is necessary to effect a cure. Let it be understood, however, that the surgeon who rushes into the operative treatment of exophthalmic goiter, without a careful study of the individual case, is just as culpable as the physician who permits his goiter patient to acquire a permanently damaged heart and nervous system thru fruitless medication. The time to operate on these patients is during a stage of comparative quiescence, which may be determined by a study of the history. The psychology of the patient should be analyzed and every effort made to eliminate fear which plays such an important part. Crile's method of anociation is of great value in this connection, and "stealing the goiter" is attended by good results, when the details are carried out carefully.

Ligations of one or more thyroid arteries are often advisable and tend to fit the patient for the more extensive resections. Such ligations may readily be carried out under local anesthesia for the superior thyroid arteries, but ligations of the inferior vessels require a general anesthetic. I have had no experience with the injection of boiling water and must confess that it does not appeal to me as a good surgical measure.

The operative technic which I employ has no original features, so far as I am aware, but is a selection from various operations elsewhere described. The anesthetic is nitrous oxide and oxygen together with the injection of novocaine ¼ per cent. solution, or what is just as effective and much cheaper, quinin bisulphate ½ per cent. solution, into the proposed line of incision. The Kocher collar incision gives the best approach to the gland and the best cosmetic results. In my work during the past three or four years, I have particularly endeavored to make the incision in or parallel to one of the normal folds of the skin, so that the resulting scar becomes practically invisible in the course of a few months. By lightly outlining the incision with a knife when the neck is flexed, it will not be obscured when the local anesthetic is injected. Then follows the division of the skin and platysma and the undermining of both these structures for a sufficient distance to give a good exposure. The muscles are then infiltrated with the quinin solution.

If the goiter is small, one can split the sternohyoid and sternothyroid muscles longitudinally and secure a good working field, but with the larger goiters it is advisable to divide those muscles transversely. Then the larger superficial veins are ligated, the inner borders of the sternomastoid muscles are separated from the deep fascia and the sternohyoid and sternothyroid muscles divided transversely between clamps high up in order to preserve the nerve supply. Such exposure enables one to see both lobes of the thyroid and better decide what should be removed. In some cases it is then wise to divide the isthmus, as advised by Balfour and, working from the larynx and trachea outwards, one can catch the vessels as they appear and soon dislocate the entire lobe. It is well to leave portions of both the inferior and superior poles so that the parathyroids will not be imperiled. The recurrent laryngeal nerve should also be avoided by leaving that part of the posterior sheath of the thyroid which is close to the larynx.

In certain cases it is better to dislocate a lobe forwards at the start and work from the posterior surface, while in other cases it may be better policy to ligate the superior thyroid artery and veins before attempting to raise the lobe from its bed. The firm hyperplastic goiters are usually much more difficult to handle than the other types. The gland substance is very friable, the blood supply is exceedingly generous and the rigidity of the gland makes it hard to dislocate a lobe.

In dealing with adenomata one can often shell out the encapsulated tumors and leave portions of the thyroid gland behind. One should carefully remove all such tumors, as otherwise a recurrence of the goiter is apt to occur.

The next step is the closure of the wound by suturing the divided ribbon muscles and bringing the edges of the retracted sternomastoids toward the median line, thus partially covering the inner suture line. The platysma should then be carefully approximated, for it is essentially the cosmetic muscle of the neck. If not united, the skin cicatrix will almost invariably widen and we shall fail to have the fine linear scar which the patient deserves. We should remember that women have goiters more frequently than men—only 12 per cent. of my operative cases were in men—and an ugly scar on a woman's neck means much to her as a rule.

Drainage of the wound is not necessary if hemostasis has been good, but where a large raw surface of the gland is left, it is wise to put in a small piece of folded rubber dam for drainage. So far as the secretion of the thyroid causing toxic symptoms by being absorbed from the wound, I am inclined to think the idea is a myth.

My statistics embrace 445 operations on 425 patients. Of these 10 died, a mortality of 2.3 per cent. One hundred sixty-one of the patients had simple goiters, while 264 suffered from hyperthyroidism in varying degrees, from the extreme type of advanced Graves' disease to the mild type of toxic adenoma. This mortality occurred only among the cases suffering from hyperthyroidism and is higher than it should be. I am confident that several deaths in my earlier work were due to poor judgment in selecting the time for operation. As stated before, 12 per cent. of all the cases were males, while 88 per cent. were females.

240 Stockton Street.

QUININ AND UREA INJECTIONS IN GOITER.

By Leigh F. Watson, M. D.
CHICAGO, ILL.

In the treatment of goiter, as in the treatment of many maladies, the surgeon urges that the patient be recommended for operation early. No doubt the best results do follow the operation when it is performed before the disease has reached the more serious secondary stage, just as a smooth and comfortable recovery will often follow the proper medical treatment when administered to beginning cases.

It is not my purpose to condemn the operation for goiter. Anyone with experience in the treatment of the disease can not doubt its value as a therapeutic procedure, and in many cases it is the only means from which the patient may derive benefit. It is my opinion, however, that only in exceptional cases it should be the first step taken to effect a cure. The mortality is high; the recurrence is frequent; and until a greater number of patients have been cured by it, and a longer period of time has elapsed since it came into use, there will always be the question as to whether the patient operated upon may not suffer at a later time from too little thyroid function. It has been less than twenty years since the operation of partial thyroidectomy for exophthalmic goiter came into general use.

General Observations.

It is a well established fact that the thyroid begins to shrink and its activity decreases after the thirty-fifth year. If too much of the gland is removed early in life, it is reasonable to believe that disturbing symptoms of hypothyroidism or myxedema are liable to appear at middle age.

I believe it is possible to destroy a smaller amount of thyroid tissue by quinin and urea injections than is usually removed in the ordinary operation of partial thyroidectomy, the symptomatic relief being the same. Statistics show the recurrence is lessened, and the method is without the danger of the operation. It is a question whether the portion of the gland remaining after lobectomy is any better able to maintain bodily functions than if a lesser amount is destroyed by injections, cautiously given, so that the greatest amount of gland compatible with the restoration of health may be saved.

The studies of Wilson have definitely proved the constant association of exophthalmic goiter with primary parenchymatous hypertrophy and hyperplasia of the thyroid gland. Kendall has isolated from the thyroid of exophthalmic goiter an active principle, substance "A," which when injected into a normal person increases pulse rate, vigor, metabolism and nervous irritability; a very small amount will produce marked symptoms of hyperthyroidism. He also observes that in exophthalmic goiter the secreting capacity of the gland is greatly increased and the reservoir capacity much decreased.

Bearing in mind these pathologic changes which accompany exophthalmic goiter, it is obvious that medical treatment, which stops short of destroying a portion of the enlarged and hyperactive gland, will at times fail to afford relief from the active symptoms and will also fail to prevent recurrence when the hypersensitive, altho quiescent goiter is subjected to severe psychic strain.

Clinical Observations.

In reviewing the records of one hundred and twenty-five cases of goiter that came from Western states, where not more than five per cent. of the population have thyroid disturbances, I have observed that the age of onset is later in life, and the period of intoxication is longer, than in those cases coming from goitrous districts. Each patient having goiter of more than three years standing had begun to show toxic symptoms. In the majority of cases the goiter began in the right lobe, gradually involving the isthmus and finally the left lobe; with its increase in size and extent, the toxic symptoms became more pronounced. In this group the most frequent cause of exophthalmic goiter was some unusual exposure or strain, such as worry, grief, fright, parturition, climacteric or infectious diseases. Of the one hundred and twenty-five patients twenty-three had had tonsillitis and only four of these had had the disease in a severe form. Ovarian pain was present in thirteen per cent. of the exophthalmic patients, while thirty-nine per cent. suffered from dysmenorrhea.

Treatment.

In all cases of hyperthyroidism I have obtained the best results by keeping the patient in bed in a sanitarium several weeks while giving the injections, the length of time depending on the severity of symptoms and response to treatment. The necessity of minimizing pain from any injection by means of local anesthesia can not be too strongly emphasized.

Preliminary injections into the thyroid gland of a few minims of sterile salt solution, followed by injections of sterile water, are recommended to lessen the danger of acute hyperthyroidism which might otherwise follow the first quinin and urea injection. As soon as no hyperthyroidal reaction follows the water injections, their usefulness is at an end.

The injection method is surrounded by certain dangers, immediate and remote. One inexperienced is liable to puncture the trachea or one of the large blood vessels, or to make the injection into the soft tissues of the neck. There is always the danger of provoking an acute exacerbation of hyperthyroidism. The toxic patient should be watched carefully and at the first sign of impending hyperthyroidism treatment should be stopped, a hypodermic of morphin and atropin given, ice bags applied over the thyroid and heart and the room darkened.

Conclusions.

A study of cases covering the last four years, in which quinin and urea injections have been used as the treatment of choice, permits the following conclusions:

(1) The use of quinin and urea injections has been without mortality and, if used in a hospital by one experienced in thyroid surgery, it should not be dangerous.

(2) The patients must be carefully selected, as the method is not a cure all and will not displace surgery in certain cases.

(3) In this group of one hundred and twenty-five cases reported, I believed that the method was not indicated in twenty-five of the number. The quinin and urea injections were used in the one hundred cases with the following results: the symptoms were relieved in eighty-five per cent. of the exophthalmic, and in eighty-four per cent. of the toxic non-exophthalmic patients. Fifteen per cent. of the exophthalmics were improved and ten per cent. of the non-exophthalmics were benefited. In eighty per cent. of the exophthalmics the goiter entirely disappeared within an average period of five months; in fifteen per cent. the tumor was reduced in size, and in five per cent. there was no change. The tumor disappeared in seventy-five per cent. of the non-exophthalmic patients, was reduced in twelve per cent., and in thirteen per cent. there was no change.

(4) The treatment of the exophthalmic type in young adults is most difficult, and should be attempted only under the most favorable circumstances.

30 North Michigan Ave.

PANCREATIC CYST. REMOVAL OF THREE-FOURTHS OF THE PANCREAS. RECOVERY.*

By J. Tate Mason, M. D.
SEATTLE, WASH.

The reported cases of pancreatic cyst are so few as to make unnecessary an apology for presenting a single case of unusual interest, because two years following removal of three-fourths of the pancreas, the patient continues in good health. With this report a synopsis of our present knowledge of pancreatic anatomy and pathology seems indicated.

The pancreas is one of the most important organs of the body, yet it has the distinction of less manipulation by the surgeon than any of the others. This is not because it is somewhat difficult to reach anatomically, but because the physiology has not been completely worked out.

Modern investigation points strongly to the fact that its place in digestion is not its most important role, but that it exercises a control over many of the other internal secreting organs. It has recently been offered as proof that a portion of every proteid molecule is available for conversion into glucose. Once converted into glucose, it is subject to the internal function of the pancreas. Therefore, it must be considered as controlling, not only the carbohydrate metabolism as it is ordinarily thought of, but a portion of the proteid metabolism. We are getting a better understanding of this organ of late years and consequently more surgery is performed.

The gland lies just behind the stomach, being long and irregularly prismatic in shape. No two have the same identical shape. It is of a reddish white color, extending from the duodenum, with which it is intimately connected, to the spleen, a distance of five and a half to six inches. It weighs from three to four ounces and is about one and a half inches wide, with one-quarter to one-half inches in thickness. It is divided by the anatomist into a head, neck, body and tail. Except for the head, which is lodged within the curve of the duodenum, it is impossible to tell where one division begins and the other ends. The head tapers into the neck, which is about one inch long, the neck into the body and it likewise into the tail, which is in contact with the gastric surface of the spleen.

Lying behind the pancreas, from the duodenal side to the spleen, is the right suprarenal body, occasionally right renal vein, portal vein, vena cava and aorta. The celiac axis grooves the gland above, while the superior mesenteric artery grooves it below. Beyond this point it lies on the left pillar of the diaphragm, left suprarenal body and left kidney.

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* Read before Spokane County Medical Society, Spokane, Wash., May 1916.

The peritoneal covering of the anterior surface is derived from the prolongation of the two layers of the transverse mesocolon which is attached to the anterior border of the gland from the neck to the tail. I believe the knowledge of this covering is of great importance in any surgical procedure. Should one take any other route except thru the mesocolon or lumbar, the latter which is not practical, the lesser peritoneal cavity is opened which as we know withstands any interference with much less degree of resistance than the larger.

The nerves of the pancreas enter mainly with the arteries and are derivatives from the sympathetic system thru the celiac axis. They form a net work around the artery and finally the same around the gland acini.

The pancreas is derived from one dorsal and one or two ventral buds. The ventral bud is in close relationship with the common bile duct. The primary diverticuli give off hollow buds, this continuing until the larger part of the gland is formed. The duct of Santorini comes from the dorsal, the duct of Wirsung from the ventral bud.

In about ninety per cent. of the cases the ducts anastomose. The duct of Santorini is usually small, doing very little if any work. In about fifteen per cent. of the cases the ducts of Santorini seem as large as the duct of Wirsung. The duct of Wirsung enters the ampule of Vater in common with the common duct. (Fig. 1a). In 150 cases which I have examined it has always been constant, with the exception of one.

Anatomists tell us, tho, that the common duct does enter the duodenum occasionally without anastomosing with the duct of Wirsung (Fig. 1b) and, in the one case in which I was able to see this, there was such a thin membrane between the two ducts that a stone in the duodenal part of the common duct could not help but compress the duodenal part of the duct of Wirsung. The exact knowledge of these ducts becomes of prime importance when we begin to realize that in a large percentage of cases of gallbladder disease there is pancreatitis.

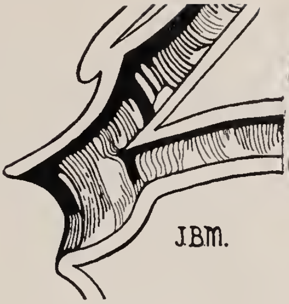

Fig. 1a.

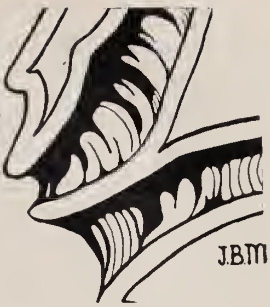

Fig. 1b.

Realizing the close anatomic relationship between the common duct and duct of Wirsung, and then the free lymphatic connection between the head of the pancreas and the biliary ducts, one recognizes that the exact cause of a pancreatitis following gallbladder disease is not easily explained. The circulation might be a factor, but when the pancreas is not harmed in conditions of general bacteremia—nor do we have a bacteremia with pancreatitis—this can be ruled out. This leaves the infection two avenues, the ducts or the lymphatics.

Here again we know that Coffey and Sweet have anastomosed the head of the pancreas into the duodenum without an ascending infection. Thus many cases of pancreatitis have no stone in the ampulla of Vater nor even the slightest irritation of the ducts. This question has not been fully decided but Deaver, Sweet, Pfeiffer and others believe that chronic pancreatitis is an infection of the interlobular connective tissue. Therefore, it is a lymphangitis, while acute pancreatitis may come from trauma, severe infection, or possibly by occlusion of the papilla of Vater.

PANCREATIC CYST.

That pancreatic cyst is rare is shown by the figures at the Mayo Clinic, in which, during 1913-14 in 9764 abdominal sections, only two cysts were found. Altho rare, they have been known to exist for many years and every well known textbook will have one or more well defined methods of procedure for drainage or removal.

Symptoms. Diabetes was present in nine out of one hundred thirty-four cases reported. Emaciation is a common symptom. The pain is paroxysmal in character and often very severe. Pressure of the tumor on nerves and adjacent organs may also cause pain. Vomiting is an almost constant symptom and accounts partly for the emaciation. The stools are fatty and are pale in color with azotorrhea.

Diagnosis. Cysts of the pancreas may simulate a dilated and tense gallbladder. They may be mistaken for cysts of the liver, kidney or spleen. Cysts of the omentum or pseudopancreatic cysts have been operated upon for the true pancreatic cysts. Cysts of the mesentery, ovarian cysts, cysts of the uterus and suprarenals have all been confounded with cysts of the pancreas, as have also tuberculous peritonitis and ascites. Even with the use of the aspirating needle the diagnosis is not always made, as the secretions of some of the other cystic formations may contain some of the digestive ferments found in the pancreatic secretion. Aspiration is dangerous, unless the entire contents of the cyst are evacuated, as the resultant leakage would attack the surrounding tissues.

Classification. The true cysts of the pancreas may be divided into (a) retention cysts, (b) proliferation cysts or cystic neoplasms, due to spontaneous proliferation of the epithelial elements of the gland with accumulation of fluid in the cavities so formed (They may be simple cyst-adenomata, malignant epitheliomata or carcinomata), (c) congenital cysts which are rare. Robson and Moynihan have reported three of these, two pseudocysts and three hydatid cysts. True cysts are most common in females and traumatic pseudocysts in males.

Causes. Chronic interstitial pancreatitis is the most common cause of cystic formation. Other causes that have been reported are tumor in the duct of Wirsung, duodenal tumor, stricture of the pancreatic duct due to ulceration, swollen lymphatic glands, adhesions near the head of the pancreas, gallstones, extension of gastric ulcer, pancreatic calculi, gallstones in the ampulla of Vater and intestinal parasites.

History. Up to 1912 only one hundred and seventy-three cases had been reported and of these Mayo Robson reported thirteen. In more than six thousand postmortems at Guy's Hospital only four pancreatic cysts were found and one of these was hydatid. Several cases of pseudocyst were found, caused by distension of the lesser peritoneal sac or localized collections of fluid in the region of the pancreas. McPhedran reports one case, in which there was a pseudo and a true cyst in the same person.

Size. Their sizes vary up to sacs holding as much as thirty pints. They may present thru the gastrohepatic omentum, gastrocolic omentum or mesentery of the transverse colon.

Results. Out of one hundred and sixty cases operated on, one hundred and forty recovered. Of these eight subsequently died of diabetes, one from hemorrhage, one from concomitant peritonitis seven weeks after the operation, one from zymotic fever a few weeks later, and three cases died in a few weeks after the operation from causes not stated. One hundred and thirty-eight of these cases had excision and drainage performed with a mortality of 11.6 per cent. In fifteen cases excision alone was performed, with a mortality of 20 per cent., and in seven, where partial excision was performed, there was a mortality of 14.3 per cent.

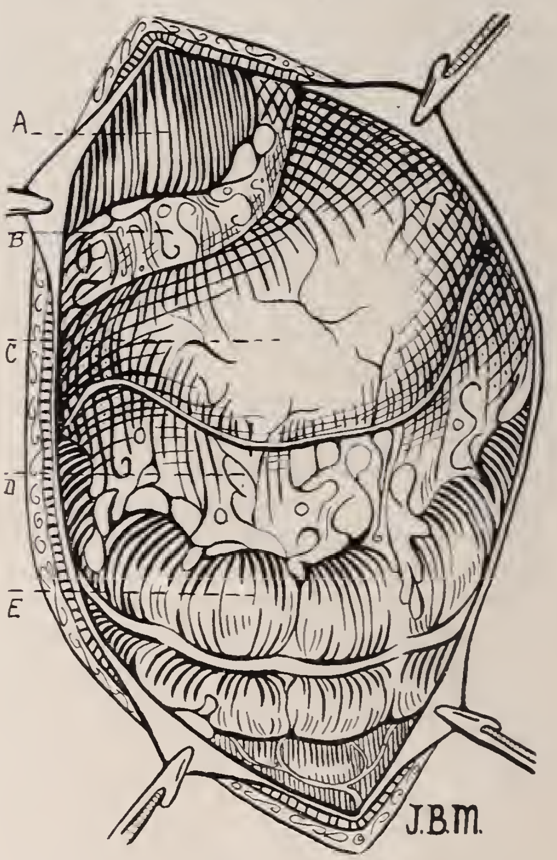

Fig. 2—A, Liver; B, Gastrohepatic Omentum; C, Stomach; D, Gastrocolic Omentum; E, Transverse Colon.

The case which I wish to report was referred to me by Dr. Luman S. Roach for operation during the middle of May, 1915.

Mrs. E., married six years, age 24, born in Tennessee. Two children, youngest under two, normal births, no miscarriages. Family history negative. Except for measles and child-birth has never had to call a physician. Had malaria slightly. Has lived in Oklahoma since she was ten years of age.

Present Illness. Early in 1915 patient caught cold and during her menstruation, which was several days late, she had considerable pain in the abdomen, both of which were unusual for her. Two weeks later she had crampy pains all over the abdomen, pain radiating to the left shoulder. She vomited frequently; stool very constipated. Obtained most relief by lying on right side.

Physical Examination. Anemic young women. Heart and lungs negative. Pelvic organs negative. Temperature 99°, pulse 90. Blood showed slight cosinophilia. Urine, no sugar, no albumin, some indican. Wassermann negative.

Tumor which is tender is located in the lower epigastric and upper umbilical regions, not movable. This mass enlarged very rapidly until ten days later, when she was removed to the hospital for an exploratory incision. At this time the mass seemed to be about the size of a baby's head. She had relief from pain only by lying on her left side, with knee as near her chin as possible.

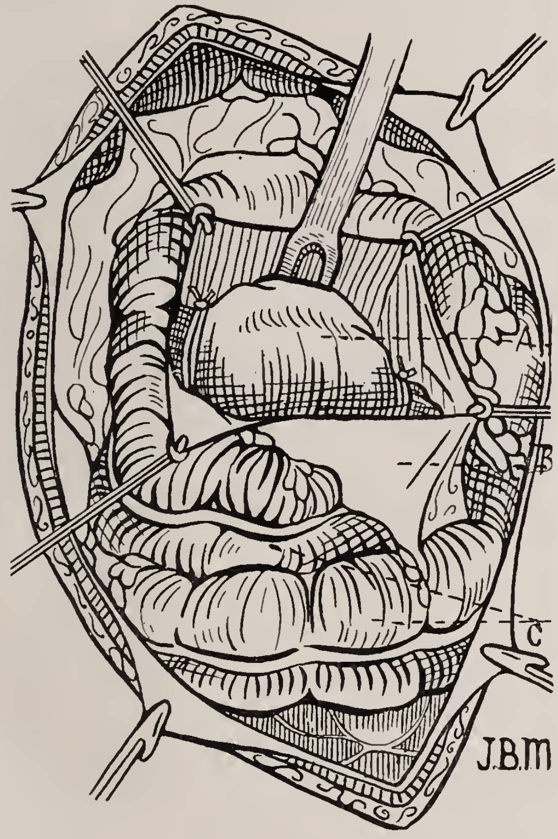

Fig. 3—A, Pancreas; B, Sac; C, Transverse Colon.

Operation. Right rectus incision was made about five inches long. The stomach, gastrocolic omentum and transverse colon were flattened out over this mass and were adherent to it. (Fig. 2). The tissues were all edematous, even the parietal peritoneum. The mass was much harder and firmer than one would expect for a cyst.

The approach was made thru the mesocolon and cyst tapped, removing four quarts of viscid fluid. With the exception of the head, the entire pancreas was lying in this cyst. It was gelatinous looking and past all possibility of restoration. By loosening it from behind, two chromic catgut sutures were slipped around, one at the tail, the other at the neck, and about three-quarters of the pancreas removed, (Fig. 3). The drainage tube was left by making three different purse string sutures, one above another, and then the fat of the omentum tucked around this. (Fig. 4). This continued to drain for forty-three days, nine and one-half ounces being the largest amount received from the tube and one and one-half the smallest in any twenty-four hours. Patient left the hospital on the fortieth day, practically well.

In conclusion I wish to call your attention to the fact that with only one-quarter of her most important organ left she had an uneventful recovery and with the exception of a slight enlargement of the thyroid has continued in good health up to the present time. It has occurred to me that the link in the chain of the internal secreting organs being broken with the removal of such a large part of the gland may have caused a normal hypertrophy of the thyroid.

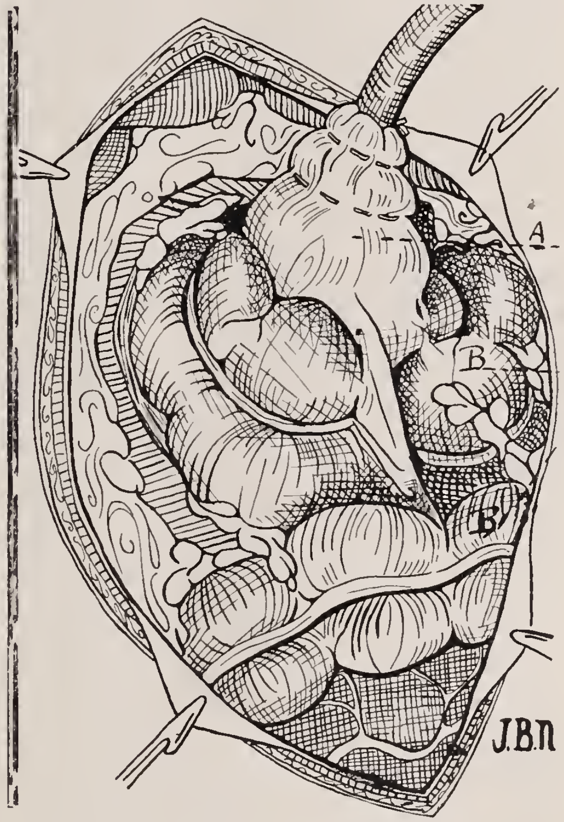

Fig. 4—A, Sac; B, Transverse Colon.

Acute Myelogenous Leukemia. A case of acute myelogenous leukemia is reported by H. T. Simon and M. S. Rosenthal, New Orleans (Journal A. M. A., Dec. 29, 1917), with postmortem findings which are rare in the literature. A definite diagnosis was made only at the postmortem. These cases are rather extensively reported and, considering the rarity of the type, must be of interest. Both microscopic and macroscopic observations were made and the diagnosis can hardly be questioned.

NORTHWEST MEDICINE

The Journal of the State Medical Associations of Oregon, Washington, Idaho and Utah.

Devoted to the Interests of the Medical Profession of the Pacific Northwest.

Editorial Office, 1011-12 Cobb Building, Seattle, Wash.

JANUARY, 1918.

EDITORIAL

THE SPIRIT OF THE NEW YEAR.

It has been customary in our first issue of the year to extend to our readers our New Year greetings with the hope of prosperity and happiness for the coming twelve months. With our nation actively engaged in the terrible war tragedy, these sentiments at present seem somewhat inappropriate and puerile. With the prospect that many of us may experience sorrow, hardship and disappointments, it is more fitting to hope for the possession of strength, fortitude and courage for the experiences that are before us. We trust that these attributes may be the possession of all of the medical profession of our whole country. Every physician with true patriotism in his soul wishes to do his share in maintaining the spirit with which our nation has entered into this terrific struggle. Whether it be his individual lot to care for the soldiers on the firing line, to relieve their wounds in the hospital or to maintain his line of duty at home, let each feel he has a duty to perform and do it with that earnest endeavor which alone brings results. Even the wisest can not predict what is in store for the medical profession at the close of this great war. We can be assured of one thing, however. If the spirit of sacrifice and devotion to duty is universally developed, we will have in our land a body of medical men and women more efficient, more earnest and better qualified than ever before to carry out the true mission of the perfect physician. May these attributes be in the hearts of all our readers.

REPORTING VENEREAL DISEASES.

There has never been a time when venereal diseases have received such wide consideration and discussion as at present. Not only has the subject demanded attention from physicians and medical journals but the lay press has taken it up as well and considered it as a problem of vital importance to every community. Especially have these diseases been brought to the attention of the general public by assemblies of large numbers of men in the army cantonments. The insistence by government officials that soldiers must be protected from the menace of syphilis and gonorrhea has caused everyone to realize more than ever before that these constitute one of the greatest forms of menace to the youth of our land. So vital has this question become that both government and state authorities have considered and discussed various means to suppress these diseases. As evidence that this is a question of the day, attention is called to the meeting last month in Tacoma of the Western Social Hygiene Society, where representatives of seven western states discussed social and hygiene problems. Resolutions of a very radical nature were adopted, calling for state boards of health to require all physicians to report all cases of venereal diseases with their sources of infection, if obtainable; to enforce isolation or quarantine of all infected persons, if considered necessary; for the state to cooperate with the government in all its plans for the prevention of venereal diseases and to procure legislation for the elimination of all forms of advertising of quack medicines and nostrums. If any state legislature could be inspired to pass measures carrying out these suggestions, there might be hope of making a real impression on the venereal menace which is so wide spread. We would commend these subjects to the consideration of our law makers.

PASSING OF A MEDICAL JOURNAL.

We have had occasion from time to time to note the launching of a new venture in medical journalism, but rarely do we observe a journal voluntarily ending its career during a period of prosperity. Such a phenomenal event, however, was last month announced by the *St. Paul Medical Journal* which, with the issue of that month, brought its career to a close after an existence of nineteen years. The reason for thus ceasing to exist is the appearance of the new state journal, *Minnesota Medicine,* which will represent the profession of that great state. Anyone familiar with the St. Paul journal will regret the absence of its familiar pages and will realize the spirit of self-sacrifice which inspires its editorial board in thus retiring in favor of the new publication which has a greater prospect for future usefulness in that territory.

The editorial staff of NORTHWEST MEDICINE has always had a warm feeling of friendship for the *St. Paul Medical Journal* from extended acquaintance with its founder and editor for many years, Dr. Burnside Foster. When this journal was in contemplation fifteen years ago, much valuable advice and counsel was obtained from Dr. Foster which afforded material aid in the early months of its existence. The departing journal will be remembered by the good work which it has accomplished, not only for the profession of Minnesota but for the cause of medical journalism in the whole land.

MEDICAL NOTES

Additional Army Enlistments. The following names have been received since our last issue of physicians who have been commissioned for army service:

OREGON.

Bates, C. E., 1st Lieut., Salem.
BoDine, C. E., Capt., Portland.
Coberth, Thompson, 1st Lieut., The Dallas.
Dodds, H. C., 1st Lieut., Dufur.
Elwood, J. L., 1st Lieut., The Dalles.
Howard, M. G., 1st Lieut., Junction City.
Kester, Eugene, 1st Lieut., Springfield.
Moore, H. B., 1st Lieut., Portland.
Murphy, F. P., 1st Lieut., Portland.
Rockey, E. W., 1st Lieut., Portland.
Wight, O. B., Capt., Portland.

WASHINGTON.

Cassels, W. G., Seattle.
Groenlund, W. G., Seattle.
Hough, W. J., Tacoma.
Hurley, V. J., Hoquiam.
Kniskirn, E. L., Centralia.
Nace, A. G., Tacoma.
Overmeyer, G. W., Seattle.
Stewart, A. C., Ft. Steilacoom.
Wood, F. L., Linden.
Wood, N. P., Seattle.

IDAHO.

Carithers, D. H., Capt., Moscow.

Annual Meeting of North Pacific Surgical Association. The annual meeting of this association was held at Victoria, B. C., last month. A very interesting program of papers was presented. The following officers were elected for the ensuing year: President, M. G. Sturgis, Seattle; first vice-president, E. F. Turker, Portland; second vice-president, G. S. Gordon, Vancouver, B. C.; secretary and treasurer, R. B. Forbs, Seattle; recorder, H. W. Riggs, Vancouver, B. C.; councilor, Alfred Raymond, Seattle; financial trustee for five years, C. W. Sharples, Seattle.

OREGON.

Examinations for New Army Doctors. An examining board consisting of Capt. R. A. Fenton and Lieut. K. P. Moran will examine physicians for the army from Oregon. Examinations will be conducted according to a plan suggested by Dr. K. A. J. Mackenzie and other local members of the Council of National Defense, which will be held in different cities of the state. Oregon's proportion of the 22,000 medical officers is 180. Of this number 156 have been recommended but not all have received commissions. The school to which a doctor belongs cuts no figure, provided he has the needed surgical qualifications.

Appeal Examining Boards. Drafted men dissatisfied with the findings of the regularly appointed examiners can appeal to the new examining boards, twenty-five in number, which have recently been appointed. The list has been forwarded by Gov. Withycombe to President Wilson for his approval. Each board comprises a number of physicians with one or more dentists. They are distributed so as to cover all districts of the state.

Office of County Coroner to be Modernized. The City and County Medical society, of Portland, wishes scientific methods to be introduced into the office of County Coroner. It is requested that the pathologist of the University of Oregon be appointed as coroner's physician to perform all autopsies and to investigate cases in the jurisdiction of the coroner. It is claimed that the plans outlined are in effect in the large cities of the east and are not intended as a reflection on any individual.

Paso Robles Hot Springs. Dr. G. A. Tape, well known to the profession of Oregon and Washington, familiarly addressed by his friends as the "bishop," spent some time in these states last month. He says the mud baths at Paso Robles Hot Springs, Calif., of which he is the medical director, constitute one of the best possible means of treating various chronic diseases, due to their radio-activity. He was full of interesting incidents to prove these claims.

New Hospitals Planned. A new Catholic hospital is to be built at Lake View. It will be of brick and mill construction, 60 by 100 feet, equipped to care for 40 patients. The Home Hospital at Prineville is to be made over by extensive improvements which will make it into a modern institution with seven private rooms and a large ward.

Promotions in the Army. Dr. G. E. Darrow, formerly of Eugene and now major in the U. S. Army, has been made Brigade Surgeon of the Letterman Hospital at Presidio, Calif. Dr. W. A. Campbell has been appointed major and chief surgeon in the Oregon National Guard.

With the Red Cross in France. Dr. Esther C. Lovejoy of Portland, the first American woman to receive a commission, has been working for some time as lieutenant with the Red Cross in France and has given some interesting reports of the part a woman can do in carrying on this important work.

WASHINGTON.

Preparation for the Second Draft. Dr. J. R. Yocom, of Tacoma, has been commissioned with the rank of Captain by President Wilson to mobilize physicians of the state in preparation for the second draft. Capt. Yocom will classify all physicians according to their specialties in various districts and locations. Later medical boards are to be appointed for different sections to attend to the examinations of drafted men.

Planting and Harvesting of Medical Plants. The U. S. Department of Agriculture will appoint an expert from the department at Washington, D. C., to superintend the planting and harvesting of medical plants of Washington. The department of pharmacy at the University, at Seattle, will have a truck garden of about three acres, where experts will determine what plants will best grow in this state.

Army Promotions. Dr. S. E. Lambert, of Spokane, has been advanced by receiving a commission of Surgeon Major in the United States army. Lieut. H. J. Whitacre of Tacoma, now head surgeon at the Camp Lewis Base Hospital, has been promoted to the rank of major. Dr. G. W. Phillips, of Everett, has been promoted from First Lieutenant to Captain in the medical corps. The same has been received by Dr. Payne, of Sedro Woolley. Lieut. C. D. Hooper of Richmond, who has been in charge of hospital work at Vancouver, has been promoted to the rank of captain.

Whatcom County Medical Society. At the annual meeting of the society this month E. W. Stimpson was elected president; C. W. Hills, 1st vice-president; A. M. Dawson, 2nd vice-president; N. W. Wear, 3rd vice-president; O. E. Beebe, secretary; F. J. Van Kirk, treasurer; J. R. Morrison, and L. R. Markley, executive committee; J. W. Goodhart, S. J. Torney, W. H. Axtell and A. M. Smith, committee on inquiry; Geo. Cook, delegate; C. S. Hood, alternate to the meeting of the state association.

New Health Officers. Dr. H. J. Hards has been appointed health officer at Tacoma in place of Dr. J. E. Henry, resigned. Dr. John L. Courtwright has been appointed assistant health officer to direct the examination of men and women arrested on vagrancy charges. Those infected with venereal diseases will be detained until cured. Miss Shirley Frye has been appointed health inspector to look after infected women.

Jail Sentence for Selling Booze. Dr. J. B. Raub, of Spokane, has been sentenced to fifteen days in jail and $100 fine for issuing a whisky permit to a person not in need of it medically. This sentence was confirmed by the superior court. Dr. T. J. Piersol, of Tacoma, for the same offence was sentenced in the superior court to thirty days in jail and a fine of $150.

Doctor Finally Vindicated. The malpractice suit against Dr. Rush Banks, of Centralia, has finally been completed after a series of trials covering several years. It has twice been before the Supreme Court, from which it has been remanded for new trial. The plaintiff sued for malpractice, claiming that death of husband from typhoid fever was caused by feeding the patient soft milk toast and a soft egg. The final verdict was in the favor of the defendant. The congratulations of the medical profession of the state is due Dr. Banks.

New Hospital at Republic. Articles of incorporation have been granted for the Republic Hospital which will be constructed as a modern institution to accommodate eight to ten patients.

New Isolation Hospital. The Seattle City Council has appropriated the necessary funds for three months for an isolation hospital to care for women infected with venereal diseases. It is reported that over 90 per cent. of them have been proven syphilitic by the Wassermann test. They are looked upon as a public menace.

Spokane Hospital Unit. Maj. S. E. Lambert, director of Hospital Unit C, of Spokane, last month assembled its enlisted personnel in order to transfer them to Fort MacPherson, Ga. The medical staff has been relieved from duties at Camp Lewis, Fort D. A. Russell and Fort Raleigh. Dr. Wm. O'Shea is already in France, where he will join the unit, while the Red Cross nurses have not yet been called, about half being in service at some of the base hospitals at the cantonments.

Washington Physician Wounded. Capt. W. K. Turner, who formerly practiced in Seattle and Port Angeles, was seriously wounded somewhere in France last month. For the past year he has been connected with the Canadian Overseas Contingent.

Dr. C. N. Suttner, who has practiced for many years in Walla Walla, has moved to Spokane, where he will continue in the practice of medicine.

Dr. J. S. Newcomb, who formerly practiced at Tolt, has moved to Arlington.

Dr. I. J. Pond, a former resident of Arlington, has located for practice at Boise, Ida.

Dr. C. H. Weisman, of Spokane, has recovered from an attack of lobar pneumonia which he unfortunately experienced during the past month.

Medical Wedding. Last month Dr. S. D. Cameron, of North Yakima, was married to Miss Laura Brouillard, of the same city.

OBITUARIES.

Dr. E. Y. Chase died at Salem, Ore., Dec. 23rd. He was born in Ohio, in 1831. He graduated from the Miami Medical College and practiced in Ohio until the outbreak of the Civil War, when he volunteered as surgeon. Subsequently he became staff surgeon and on account of failing health was ordered to Vancouver, Wash., where he was promoted to major. Rejoining the service he served the remainder of the war and continued in Government service until 1876, retiring with the rank of Lieutenant Colonel. For a while he was Indian agent at Colville. In 1869 he moved to Salem, where he practiced until a few years ago.

Dr. Margaret Carsley Balabanoff died at Tacoma, Wash., Dec. 14, 1917. She was the wife of Dr. Ivan Balabanoff. She was born in Maine in 1851. After graduating from the Woman's Infirmary College, in New York in 1881, she practiced in that city until 1889, when she located in Tacoma for practice. She was active in women's club work and was the first chairman of the Red Cross work in that city.

Dr. O. P. Overton died at Brownsville, Ore., Dec. 22, at 40 years of age, after an illness of several years. He formerly practiced at Woodburn and was well known to the physicians of the state.

REPORTS OF SOCIETY MEETINGS

WASHINGTON.

KING COUNTY MEDICAL SOCIETY.

Pres., A. O. Loe, M. D.; Sect'y., L. H. Maxson, M. D.

A regular meeting of King County Medical Society was held in the Metropolitan Lumbermen's Club, Seattle, Wash., Dec. 3, 1917. Minutes of the previous meeting were read and approved.

Reports from the Clinical Congress of Surgeons at Chicago were given by the following members.

General Impressions of the First Night. By E. E. Hemmingway. He was most impressed with the tremenduous earnestness of all speakers. Dr. Moynihan of London was the most popular speaker. He is not only a surgeon of unexcelled ability but a polished gentleman. This meeting was essentially an effort to arouse patriotism of all present and impress them with the necessity of filling the ranks of the medical corps.

Blood Transfusion and Surgery of the Chest. By W. C. Speidel. The most common method of transfusion is that of diluting the blood with 2 per cent. sodium citrate. The Percy tubes and Mullers syringe were also mentioned. He described the surgery as conducted by Dr. Moynihan who does not hesitate to open the chest wall and treat the lung like any other organ.

Antiseptic Treatment of Wounds and X-ray Therapy. By M. W. McKinney. He says that all speakers condemned the Carrell treatment, as its technic is too exacting for practical use. X-ray therapy is more conservative than a year or two ago, not being as enthusiastically recommended now as then.

General Surgery. By F. L. Horsfall. He said in the treatment of anemia sentiment was strongly opposed to splenectomy, as being without benefit. In blood transfusions the direct method as done by most surgeons is of no value. The sodium citrate method is much better. Transfusion is only a palliative measure. The Albee method of bone grafting is highly recommended by all who use it. In poliomyelitis injections are made into the jugular vein and also the spinal canal. For anesthesia ether is the stand-by, all the new fangled anesthetics having been abandoned. In gallbladder surgery the old war is on between removal and draining. In tonsil surgery Mayo now teaches to leave the tonsil unless it is badly diseased. Biers' hyperemia has been abandoned except as an indication for amputation in gangrene of an extremity.

A. O. Loe spoke of the necessity of absolute cleansing of wounds and discussed Rosenow's serum.

It was voted to appoint a canvassing committee to assist the War Service Bureau in appearing before the individual members.

Dr. J. B. Lloyd said the health department was embarrassed in its efforts to eradicate venereal diseases by the presentation of medical certificates to immoral women. He asked that the physicians refrain from issuing such certificates.

PIERCE COUNTY MEDICAL SOCIETY.

Pres., C. R. McCreery, M.D.; Sec., R. A. Gove, M.D.

On invitation of Major E. G. Northington, the Pierce County Medical Society met at the Base Hospital, Camp Lewis, Tacoma, Tuesday evening, Dec. 11, 1917, 45 members being present. The hospital was inspected by many members in the afternoon. At six o'clock a fine dinner was served by the Medical Officers, after which the visitors were entertained in the mess hall by a musical program and boxing exhibition.

The annual meeting of the society was held at the Library rooms, 8:30 p. m., Dec. 26, 1917, with vice-president, Dr. Mary F. Perkins, in the chair. Thirty members were present. Minutes of two previous meetings were read and approved. Annual reports of the secretary and treasurer were read.

Application of Dr. J. A. Keho for membership was read and referred. The secretary read a letter from Miss Mabel Cooper thanking the society for the sympathy shown to the family of Captain A. de Y. Green, lately deceased.

The following officers were elected for the ensuing year: President, S. W. Mowers; vice-president, M. H. Perkins; secretary, R. A. Gove; trustees, J. B. McNerthney, W. D. Read, J. R. Brown, P. B. Swearingen, J. F. Griggs.

It was voted that the dues for 1918 of all those in active service in the army be remitted and the society pay the dues to the State Association if they are not remitted by the latter.

Dr. J. R. Brown announced that a class in anatomy and operative surgery had been formed at Camp Lewis, which members of the society were invited to attend, to be held every day at 4 o'clock except Saturday.

It was voted to offer the physicians at Camp Lewis Base Hospital the use of the society library. The president stated the funeral of Dr. Balabanoff would be held at the parlors of C. C. Mellinger Thursday at 2:30 p. m.

Dr. Read reported the members of the society would be solicited for monthly contributions for the families of doctors called to service in the army.

Committees were appointed on the deaths of Drs. Green and Balabanoff.

Drs. Yocom, Swearingen and Harrison were appointed to prepare a memorial for Dr. Wing who is about to leave the city.

Dr. Wislicenus demonstrated an interesting specimen of diverticulum of the intestines which had been operated on successfully in a woman of fifty with obscure symptoms thought to be malignant.

BOOK REVIEWS

Edited by **Kenelm Winslow, M. D.**

Nutrition and Clinical Dietetics. By Herbert S. Carter, M. A., M. D. Associate in Clinical Medicine, Columbia University, Paul E. Howe, M. A., Ph.D., Assistant Professor of Biological Chemistry, Columbia University, and Howard H. Mason, A. B., M. D. Instructor in Diseases of Children, Columbia University. Cloth, 646 Pp. $5.50. Lea & Febiger, Philadelphia and New York, 1917.

This is a very comprehensive treatise on the subject. The first 117 pages are devoted to physiological chemistry, the second 111 to the consideration of specific foods and classes of food. The third part of 37 pages is confined to feeding in infancy and childhood, the fourth part of 352 pages to feeding in special diseases. Turning to the more recent work in diet one finds a very clear and concise description of vitamines of Funk now divided into two classes. The water-soluble substances found in both plants and animal foods, which are thermolabile and include those existing in milk, eggs, meats and in the pericarp of grains were the original vitamines of Funk. The second class consists of substances soluble in fat and associated with lipins, as those contained in butter fat, egg yolk, kidney fat and cod liver oil. These are thermostabile. Another great advance in dietary knowledge is that referring to amino-acids and the different value of proteids based on their amino-acid content. This knowledge has overthrown completely the hitherto classic conception that proteid was proteid whether existing in digestible animal or vegetable food. Thus it has been found that the biologic value of protein varies, from being 100 per cent. in meat to 29.5 per cent. in corn, and 39.6 per cent. in wheat. Too many meatless days, especially if they were substituted with cornful (or mournful) meals, might land us in the pellagrous condition of the South, fed on hominy and molasses. One fails in finding any reference to feeding in acidosis but it is probable that this subject is still in too nebulous a state to draw any practical dietary deductions. In general the dietetic treatment of specific diseases is thoroly practical and the work is a worthy rival of the Englishman Tibbits on Diet but is not devoted so much to the science of nutrition as the classic work of our own Lusk on Nutrition.

WINSLOW.

Genitourinary Surgery and Venereal Diseases. By Edward Martin, A. M., M. D., F. A. C. S.; Benj. A. Thomas, A. M., M. D., F. A. C. S., and Stirling W. Moorhead, M. D., F. A. C. S. Cloth, 929 Pp., $7.00. With 443 Illustrations. Tenth Edition. J. B. Lippincott Co., Philadelphia and London, 1917.

The revisers inserted enough new material to keep this book before the public as a valuable text, but did not eliminate all the obsolete that has been handed down from the earliest edition. They still retain some of the old surgical procedures together with the newer. For instance, castration is still suggested instead of prostatectomy and notwithstanding that modern prostatic surgery is considered in detail. The alcohol test for determining the cure of gonorrhea is suggested, and then on the same page the modern complement fixation test discussed and its value noted. Modern ideas regarding syphilis are taken up in a clear, accurate and concise manner. The laboratory diagnosis both by finding the spirochete and by the blood test is presented, so that the average technician can readily make the examinations. Laboratory technic is made understandable to the physician so that he may intelligently interpret the laboratory findings. The good and bad of both the mercurial and arsenical treatments are presented and the conclusion is drawn that the combined method is the best. The modern work on syphilis alone makes the book one to be desired.

W. R. JONES.

Notes for American Medical Officers, Medical War Manual No. 2, Authorized by Secretary of War Under Supervision Surgeon General and Council of National Defense. By Lieut. Col. T. H. Goodwin, R. A. M. C. with introduction by Surgeon General Wm. C. Gorgas, U. S. A. Cloth. Illustrated. Pp. 112, $1. Lea & Febiger, Philadelphia and New York, 1917.

This little work is written by an English army officer of large experience and presents in a very clear and concise form matter on organization and administration, war surgery, sanitation in war, general notes for service on the Western front. The precision of war surgery may be judged by the following: In modern battles in 25 casualties may be expected 4 wound to 1 killed; 20 per cent. will be able to walk; 35 per cent. will be able to sit; 45 per cent. must be assisted; 60 to 75 per cent. of the wounded will come back to fighting line; 75 per cent. of wounds are from shell fire; 20 per cent. from rifle and machine guns, varying with nature of action. In 100 wounded there will be 10 to 20 per cent. of head wounds, 5 to 10 per cent. chest wounds, 6 per cent. wounds of belly, 60 per cent. of extremities; 500 units of antitetanus serum are injected into every wounded man. This book, like the preceding, should be in the hands of every novitiate in the M. O. R. C.

WINSLOW.

The Surgical Clinics of Chicago, Vol. I, No. 4, (August) and No. 5 (October). Octavo 206 pages, 70 illustrations. Published bi-monthly. Price per year: Paper, $10; cloth, $14. W. B. Saunders Company, Philadelphia and London, 1917.

While one misses the inimitable, didactic and positive style of the lamented Murphy one finds much more variety in this successor to Murphy's Clinics. In the October number Bevan gives a very instructive talk on benign breast tumors in which he overthrows the commonly taught principles concerning mammary growths. Thus, instead of 90 per cent. being malignant he finds but half in his experience. It is probable that in the general endeavor to wake up the female public to the dangers of new growths in the breasts the surgeons have rather exceeded the facts of the case. The question for decision, on being confronted by a new growth of the breast, is this: Have we a cancer or fibro—or cystadenoma to deal with. For only these occur in 95 per cent. of cases, according to this authority. There are twenty cancers to one sarcoma. Under the head of benign tumors are included the Schimmelbusch tumors, benign papillomas and benign cysts. The Schimmelbusch tumor was formerly regarded as chronic mastitis—a tumor made up of small cysts, from the size of a pea to a walnut. It is true there are malignant cysts—those which contain bloody fluid and those having papillomatous ingrowths. The great difference between the benign and malignant tumor is that the former is fixed by infiltration and the latter is freely movable. In 90 per cent. of cases Bevan states he can make a diagnosis of benign tumor because it is freely movable. He usually advises removal, but not always. These two numbers are filled with talks on surgical lesions of great value from the point of view of diagnosis, treatment and technic, on account of the marked ability of the teacher.

WINSLOW.

The Medical Clinics of North America. Vol. I, No. 2, (The Philadelphia Number, July, 1917). Octavo of 269 pages, 28 illustrations. Published bi-monthly. Price per year: Paper, $10; cloth, $14. W. B. Saunders Company, Philadelphia and London, 1917.

This extraordinarily practical and interesting publication contains the latest clinical views summarized by application to real cases by the best internists in this country. McCrae, in the beginning, shows cases of aortitis and points out the fact that its presence is often overlooked, and that rheumatism is a common cause as well as syphilis. He gives breast pain, dyspnea, enlarged area of dulness, pulsation in aortic area and pulsation of the arch behind the sternum as signs and symptoms—with x-ray as deciding factor. Pancoast writes a scholarly, conservative and concise article on x-ray diagnosis in pulmonary tuberculosis. Then the three main divisions in classification of x-ray findings—hilus shadows, peribronchial infiltration and lesions of the parenchyma—are described. That difficult subject of cardiac arrhythmias is lucidly described and illustrated with clinical cases by Patterson. There is no better method of clinical teaching than this unless one stand by the bedside with the teacher.

WINSLOW.

General Medicine, the Practical Medicine Series, Series 1917, Vol. VI. Edited by Frank Billings, M. S., M. D., and B. O. Raulston, A. B., M. D. Cloth, 347 Pp. $1.50. Year Book Publishing Co., Chicago.

This volume covers progress in gastrointestinal, abdominal and infectious diseases. There is a common idea among physicians that the Widal reaction is no longer reliable in subjects who have been inoculated with typhoid and paratyphoid vaccines.

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While a qualitative agglutination test is no longer available in these subjects, a series of three or more quantitative agglutination tests form a suitable and the best diagnostic means for typhoid fever—even in those who have been inoculated against typhoid and paratyphoid fever. Recently two statements have appeared in the medical press: one that a positive Widal reaction is of no value in diagnosing typhoid in inoculated persons, and, two, that fever destroys the agglutinins in inoculated persons. Both of these are wrong. Recent experience among the soldiers at the front goes to show that many cases of continuous fever are due to blood infection with B. coli, pneumococcus or M. tetragenus. Streptococcus infection is also not uncommon. Splenic enlargement is common in all. The only clinical means of making a correct diagnosis in obscure fevers is thru blood cultures which should be made in every case. Otherwise we must often be content with a diagnosis of "unknown infection." Tetragenus infection was most common in the war zone.

Two other volumes of the practical medicine series we also have for review but not the space to more than notice them here:

Pediatrics, Vol. V, Edited by Isaac A. Abt, M. D., and A. Levinson, M. D., together with **Orthopedic Surgery** in the same volume, edited by John A. Ridlon, A. M., M. D., with Chas. A. Parker, M. D. Cloth, 240 Pu. $1.35. Series 1917; and

Gynecology, Vol. IV. Edited by Emilius C. Dudley, A. M., M. D., and Sydney S. Schochet, M. D. Cloth, 240 Pp. $1.35. Series 1917; and

No more compact, reliable and illuminating publications on progress—because of the very able editorship and high professional standing of the editors—are to be had in English.

WINSLOW.

Medical Diagnosis. For the Student and Practitioner by Charles Lyman Greene, M. D. Professor of Medicine, Chief of Department of Medicine, and Chief of the Medical Clinic in University Hospitals, University of Minnesota, etc. Cloth, 1302 Pp., 14 Colored Plates and 548 other illustrations. Fourth Edition. P. Blakiston's Son & Co., Philadelphia, 1917.

This is practically a new book so extensively has it been rewritten. Among the great number of additions may be mentioned the matter on the heart and vessels with an exposition on the electrio cardiograph and polygraph. These instruments are pictured and their method and principles of use fully described. Many pages are given over to the newer study or cardiac arrhythmias. The section on the roentgen diagnosis of cardiac lesions, by Bissel, is of the greatest value. The writer has given special attention to the so-called "drop heart" of general asthenia. By x-ray this heart is shown low-lying, associated with a low diaphragm and presents an extremely narrow and mobile appearance. Such hearts may become dilated or hypertrophied. These hearts can not be discovered by percussion because a normal area would represent dilatation in a drop heart. Drop heart is found commonly associated with enteroptosis and neurasthenia.

The subject of hematology has been brought thoroly up to date and the newer instruments of precision have been carefully described. The more recent and valuable methods of urea determination and tests of renal permeability have been fully discussed, and the sections dealing with diseases of the abdominal organs have been greatly amplified and expanded. The book is very complete and includes diagnosis in nervous diseases and disorders of the eye and larynx. There is quite an extended chapter on feigned states or malingering. The index is most elaborate and painstaking. The book, already well and favorably known, ranks among the foremost works of its kind. WINSLOW.

The Labyrinth. By Alfred Braun, M. D., and Isidore Friesner, M. D. With fifty figures in the text and thirty-four half tones on twenty-four plates. Price, $4.50. Rebman Company, New York.

The past few years has been most marked in the development of the relations of the structure contained in the temporal bone, i. e. the hearing and the equilibrium apparatus to the general organism and with this is associated that afforded by the sense of sight and the eye muscles. No longer can the ear be eliminally looked at as it was thirty or more years ago as purely a sense organ of hearing and whose diseases were practically limited to wax and pus in the ears, middle and internal ear deafness.

While this book is well up to the date of publication, yet since that time, many more clinical facts have been evolved and the subject has been so exhaustively studied that we may look for further and more complex works upon the subject of the labyrinth and its brain connections and even for the establishment of a separate specialty which may go under the name of "oto-neurology." In addition to this the work goes on to the pathology of the labyrinth and the surgical operations rendered necessary for their relief. It is beautifully printed and well illustrated by plates drawn by the authors.

WURDEMANN.

The Medical Record Visiting List for 1918. Contents: Calendar, Estimation of the Probable Duration of Pregnancy, Approximate Equivalents of Temperature, Weight, Capacity, Measure, etc. Maximum Adult Doses by the Mouth, in Apothecaries and Decimal Measures. Drops in a Fluid Drachm. Solutions for Subcutaneous Injection. Solutions in water for Atomization and Inhalation. Miscellaneous Facts. Emergencies. Artificial Respiration. Signs of Death. Hints on the Writing of Wills. Table of Signs. Visiting list with Special Memoranda. Consultation Practice. Obstetric Engagements. Record of Obstetric Practice. Record of Vaccination. Register of Deaths. Nurses' Addresses. Addresses of Patients and others. Cash Account. For 60 patients a week, $1.75 in red of black morocco; for 30 patients, $1.50; for 90 patients, with dates only, $2.25. William Wood & Co., New York.

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ORIGINAL CONTRIBUTIONS

ALKALI RESERVE AND HYDROGEN ION CONCENTRATION OF THE BLOOD. METHODS AND RESULTS.

By Howard D. Haskins, A. B., M. D.
PORTLAND, ORE.
Professor of Biochemistry. University of Oregon Medical School.

Every physician should be familiar with the recent blood methods for detecting acidosis. The alkali reserve is estimated by Van Slyke's method[*] and the hydrogen ion concentration (i. e., the degree of alkalinity) by Rowntree's method.[**] It seems highly desirable to describe these methods, as well as to report the results secured by the author.

Van Slyke's method is so practical and important that it will be described with sufficient fulness to enable any physician after a little practice to make accurate estimations. Since Van Slyke's elaborate discussion of the various points involved in his method is not accessible to most physicians, it is our purpose to include every point that is necessary to the understanding of the method.

Securing the plasma. The blood should be drawn three hours or more after a meal and after a one hour rest period, so as to eliminate the influence of gastric digestion and of muscular exertion.

Constrict the arm somewhat above the elbow with a piece of rubber tubing, clamped or tied in such a way that the pressure is easily released. As soon as the median basilic vein becomes prominent, sterilize the skin with tincture of iodine, then sponge off the excess of iodine with alcohol, and promptly insert the needle (attached to the syringe) into the vein. Release the ligature for a few seconds before letting blood into the syringe in order to remove the effect of stasis. Let the syringe fill by the pressure of the blood. The needle should be sterile and not of small bore (we prefer a 20 gauge needle.) The inside of the syringe may be coated with a thin film of paraffin oil so as to lessen the chance of clotting of the blood.

As soon as enough blood is secured withdraw the needle and deliver the blood at once to the bottom of a paraffined centrifuge tube, containing oxalate and about 1 cc. of paraffin oil, the needle extending below the oil. The 5 cc. Jap-Luer syringe will slip into the ordinary centrifuge tube. Tilt the tube and rotate to ensure solution and mixing of the oxalate, but do not shake. The purest obtainable neutral potassium oxalate in finely powdered form is used in sufficient amount to make the concentration in the blood not less than 0.5 per cent. nor more than 1.0 per cent. (25 to 50 milligrams for 5 cc.)

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[*] Van Slyke, Donald D. (and others), Journal of Biological Chemistry, June, 1917, XXX, pp. 289-456.

[**] Rowntree L. G. (and others), Archives of Internal Medicine, 1915, XVI, p. 389.

Centrifuge at once if possible. If this is not possible, cork the tube, cool the blood and keep it cold (do not carry the tube in the vest pocket), until it can be centrifuged (within 1 or 2 hours at the most). The plasma must not be reddish, as the estimation will be incorrect if more than a trace of hemoglobin is present. Draw off the plasma with a dry pipette and put it in a paraffined bottle or tube, cork and keep it in a cold place until the estimation can be made. Duplicate estimations can be run if 3 cc. of plasma is secured. The minimum quantity of plasma that suffices is 1.5 cc., which is obtainable from 3 cc. of blood.

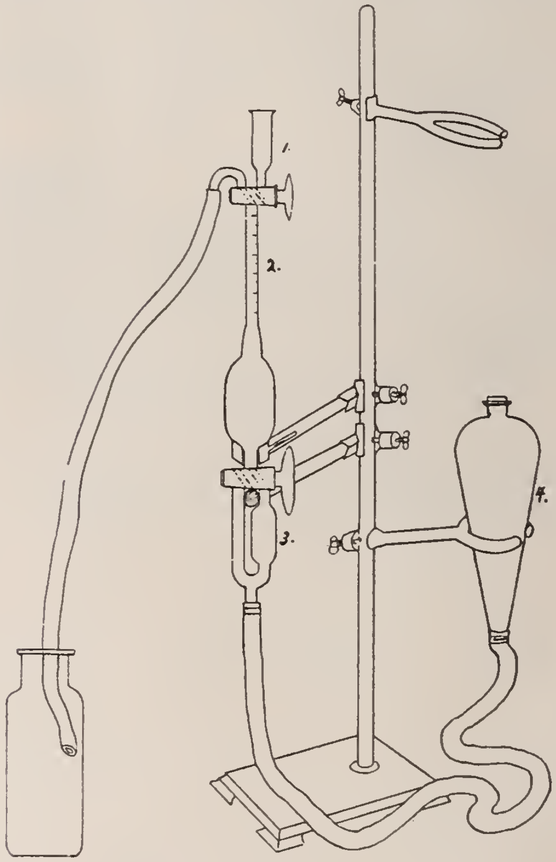
Treatment of the plasma with carbon dioxide. The plasma is to be exposed to air containing about 5.5 per cent. CO_2. The alveolar air of a normal adult is generally used. Put about 3 cc. of plasma into a dry 300 cc. separating funnel or 1.5 cc. into a 150 cc. funnel. Attach the tip of the funnel to the outflow tube of a bottle that is filled with broken glass or beads, (two tubes pass thru the stopper, the inlet tube extending to the bottom, and the outflow tube ending at the top of the bottle), and lay the funnel on its side. Open the cock and remove the stopper. Apply the mouth to the inlet tube and after a normal inspiration blow the expired air rapidly thru the column of glass in the bottle (this cools the air and removes the excess of moisture) into the funnel. Toward the end of expiration insert the stopper loosely, and just before the forced expiration is complete stopper tightly and close the cock.

Rotate the funnel rapidly or turn it over and over in such a way that the plasma is spread out in a thin film; after two minutes the plasma has acquired a CO_2 content that is in equilibrium with the CO_2 content of the enclosed air, and is then ready for the estimation. Stand the funnel upright to allow the plasma to drain down the wall. If duplicate estimations are to be made, treat the plasma with alveolar air again after measuring the first portion.

The plasma must be saturated at practically the same temperature as that at which the CO_2 estimation is made. This is accomplished if both operations are carried out in the same part of the room and within a short period of time.

The determination of the carbon dioxide bound by the plasma. Van Slyke's apparatus may be set up as shown in the diagram. Enough mercury is put into the apparatus to leave a little in the reservoir (at the right) when the rest of the apparatus is filled to the upper cock.

The apparatus should be tested for air-tightness and freedom from enclosed gas before each estimation, as follows: Raise the mercury reservoir and turn the cocks so that mercury fills all of the apparatus, including both passage-ways thru each of the cocks; now close the upper cock, and lower the reservoir below the table until the mercury level drops a little below the lower cock, and finally raise the reservoir to the position of the lower ring. If no air is present the mercury will strike the top with a click and no gas can be seen at the top of the microburette. If gas is secured it is forced out and the test is repeated.



Van Slyke Apparatus. 1 Cup for introducing plasmas and reagents. 2. Microburette for measuring CO_2. 3. Chamber for confining liquid while CO_2 is being measured. 4. Reservoir of mercury.

The cup at the top of the apparatus must be free of acid and carbonate before the estimation is started. The reservoir is set in the upper ring which is so placed that mercury fills the burette, both passages in the cock and also the capillary tube at the base of the cup. Close the cock. Moisten the entire wall of the cup by flowing in 0.1 to 0.15 cc. of 1 per cent. (carbonate-free) ammonium hydroxide and let it drain down. The plasma is to be delivered below this layer of ammonia.

Measure accurately 1 cc. of plasma (preferably with a pipette that delivers 1 cc. when drained between two marks) but dip the tip below the ammonia before allowing the plasma to flow out. Do not allow expired air to reach the cup. Lower the reservoir somewhat, open the cock cautiously and let the liquid flow slowly into the burette of the apparatus but leave the capillary full, and finally close the cock. Use about 0.5 cc. of distilled water to rinse the cup, draw this into the burette, and in like manner use another 0.5 cc. of water. Add a small drop of caprylic alcohol (0.02 cc. is enough) and draw it just into the capillary so that it can not float when the next solution is added. Add about 0.5 cc. of 5 per cent. sulphuric acid, and draw enough in to bring the mercury level just to the 2.5 cc. mark. Put mercury in the cup, and let it pass down to fill the capillary and the passage in the cock. Add to the cup a little ammonia and wash it out with water.

Lower the reservoir enough to allow the mercury to sink just to the 50 cc. mark, and close the lower cock. Carefully lift the apparatus off its supports, and (while holding in the cocks with the hands) turn it upside down at least 15 times, so that the carbon dioxide of the liquid and of the partial vacuum come to an equilibrium. Replace the apparatus, then lower the reservoir and support it on a stand setting on the floor, the supporting ring being adjusted at a proper height. Open the cock so that the liquid can pass slowly into the lower bulb, and close it when only a trace of liquid is left above the cock, and no gas has passed into or below the cock.

Now turn the cock, allowing the mercury to pass by the left hand tube, raise the reservoir and hold it back of the microburette, so that the two mercury surfaces can be quickly brought to the same level. When levelled up, close the lower cock and make the reading at the bottom of the meniscus of the aqueous liquid. With a magnifying glass exact readings can be made, even when the meniscus comes between the marks.

The column of liquid above the mercury should not be more than 0.1 cc. Note the temperature with a thermometer kept near the apparatus. Also read the barometer (a reliable anaeroid barometer will do, or if research accuracy is not desired the barometric correction may be omitted, since the uncorrected alkali reserve figure is not likely to be over 1.3 too high if the pressure is 730 mm., nor over 1.6 too low if 780 mm.)

Evacuate the apparatus as follows: Lower the mercury without opening the upper cock, turn the lower cock so that the aqueous liquid rises out of the bulb and floats on the mercury; now raise the reservoir, and finally turn the upper cock so that the liquid is forced out thru the bent tube into the rubber tube which conveys it into the bottle. Leave a mercury seal in the cock. The next estimation may be made without further washing. When all the estimations are finished, fill the apparatus between the cocks with water but do not draw in air at any time.

Calculation. Correct the observed volume of gas first for barometric pressure by multiplying it by the factor given in the barometric table. In the other table find this corrected volume in the left hand column, and read the alkali reserve figure opposite it in the proper temperature column. This table includes several different corrections, as will be explained later.

Table for Barometric Correction.

Barometer		Factor for Correction	Barometer		Factor for Correction
mm.	Inches		mm.	Inches	
730	28.75	0.961	756	29.8	0.995
732	28.8	0.963	758	29.85	0.997
734	28.9	0.966	760	29.9	1.000
736	29.0	0.968	762	30.0	1.003
738	29.1	0.971	764	30.1	1.006
740	29.15	0.974	766	30.15	1.008
742	29.2	0.976	768	30.2	1.011
744	29.3	0.979	770	30.3	1.013
746	29.35	0.981	772	30.4	1.016
748	29.4	0.984	774	30.5	1.018
750	29.5	0.987	776	30.55	1.021
752	29.6	0.989	778	30.6	1.024
754	29.7	0.992	780	30.7	1.027

The alkali reserve figure is the number of cubic centimeters of dry carbon dioxide (when measured at 0° and 760 mm. barometric pressure) which can be held in chemical combination (exclusive of dissolved CO_2*) by 100 cc. of the plasma after being exposed to air at 20° c. containing 5.5 per cent.* CO_2.

Table for Calculation of the Alkali Reserve.

Cc. of gas corrected for barometric pressure	Cc. of CO_2 bound as bicarbonate in 100 cc. of plasma, the temp. of estimation being			
	15°	20°	25°	30°
0.20	9.1	9.9	10.7	11.8
0.21	10.1	10.9	11.7	12.6
0.22	11.0	11.8	12.6	13.5
0.23	12.0	12.8	13.6	14.3
0.24	13.0	13.7	14.5	15.2
0.25	13.9	14.7	15.5	16.1
0.26	14.9	15.7	16.4	17.0
0.27	15.9	16.6	17.4	18.0
0.28	16.8	17.6	18.3	18.9
0.29	17.8	18.5	19.2	19.8
0.30	18.8	19.5	20.2	20.8
0.31	19.7	20.4	21.1	21.7

0.32	20.7	21.4	22.1	22.6
0.33	21.7	22.3	23.0	23.5
0.34	22.6	23.3	24.0	24.5
0.35	23.6	24.2	24.9	25.4
0.36	24.6	25.2	25.8	26.3
0.37	25.5	26.2	26.8	27.3
0.38	26.5	27.1	27.7	28.2
0.39	27.5	28.1	28.7	29.1
0.40	28.4	29.0	29.6	30.0
0.41	29.4	30.0	30.5	31.0
0.42	30.3	30.9	31.5	31.9
0.43	31.3	31.9	32.4	32.8
0.44	32.3	32.8	33.4	33.8
0.45	33.2	33.8	34.3	34.7
0.46	34.2	34.7	35.3	35.6
0.47	35.2	35.7	36.2	36.5
0.48	36.1	36.6	37.2	37.4
0.49	37.1	37.6	38.1	38.4
0.50	38.1	38.5	39.0	39.3
0.51	39.1	39.5	40.0	40.3
0.52	40.0	40.4	40.9	41.2
0.53	41.0	41.4	41.9	42.1
0.54	42.0	42.4	42.8	43.0
0.55	42.9	43.3	43.8	43.9
0.56	43.9	44.3	44.7	44.9
0.57	44.9	45.3	45.7	45.8
0.58	45.8	46.2	46.6	46.7
0.59	46.8	47.1	47.5	47.6
0.60	47.7	48.1	48.5	48.6
0.61	48.7	49.0	49.4	49.5
0.62	49.7	50.0	50.4	50.4
0.63	50.7	51.0	51.3	51.4
0.64	51.6	51.9	52.2	52.3
0.65	52.6	52.8	53.2	53.2
0.66	53.6	53.8	54.1	54.1
0.67	54.5	54.8	55.1	55.1
0.68	55.5	55.7	56.0	56.0
0.69	56.5	56.7	57.0	57.0
0.70	57.4	57.6	57.9	57.9
0.71	58.4	58.6	58.9	58.8
0.72	59.4	59.5	59.8	59.7
0.73	60.3	60.5	60.7	60.6
0.74	61.3	61.4	61.7	61.6
0.75	62.3	62.4	62.6	62.5
0.76	63.2	63.3	63.6	63.4
0.77	64.2	64.3	64.5	64.3
0.78	65.2	65.3	65.5	65.3
0.79	66.1	66.2	66.4	66.2
0.80	67.1	67.2	67.3	67.1
0.81	68.1	68.1	68.3	68.0
0.82	69.0	69.1	69.2	69.0
0.83	70.0	70.0	70.2	69.9
0.84	71.0	71.0	71.1	70.8
0.85	71.9	72.0	72.1	71.8
0.86	72.9	72.9	73.0	72.7
0.87	73.9	73.9	74.0	73.6
0.88	74.8	74.8	74.9	74.5
0.89	75.8	75.8	75.8	75.4
0.90	76.8	76.7	76.8	76.4
0.91	77.8	77.7	77.7	77.3
0.92	78.7	78.6	78.7	78.2
0.93	79.7	79.6	79.6	79.2
0.94	80.7	80.5	80.6	80.1
0.95	81.6	81.5	81.5	81.0
0.96	82.6	82.5	82.4	82.0
0.97	83.6	83.4	83.4	82.9
0.98	84.5	84.4	84.3	83.8
0.99	85.5	85.3	85.2	84.8
1.00	86.5	86.2	86.2	85.7

Standards for judging the results. Van Slyke gives the following figures:

Normal resting adult	53 to 77
Mild acidosis without symptoms	40 to 52
Moderate acidosis which may give symptoms	30 to 40
Severe acidosis with distinct symptoms	below 30

Only the figures below 50 should be interpreted as indicating acidosis. Infants are said to give low figures, the normals being 40 to 55.

Remarks and explanations:

(1) Occasionally one may desire to make an estimation when 1 cc. of plasma is not available. In this case use 0.5 cc. after the treatment with alveolar air, but also half quantities of water and acid so that the aqueous liquid has a final volume of 1.25 cc.; and then multiply the observed volume of gas by 2 *before* applying any corrections.

(2) Muscular exertion tends to lower the bicarbonate of the blood. Gastric digestion tends to increase it.

(3) If blood is allowed to flow in a stream from the needle into a bottle, it loses some carbon dioxide, and in consequence the bicarbonate of the plasma is slightly lessened because of a chemical reaction which occurs incidental to the presence of the corpuscles. On the other hand, venous stasis increases the carbon dioxide of the blood and therefore raises the bicarbonate content above what was present in the venous blood before constricting the arm.

(4) If the blood stands before being centrifuged, the bicarbonate slowly diminishes, probably because of the production of acid by the cells. Sterile plasma kept at a low temperature in a paraffined tube (the paraffine prevents alkali dissolving out of the glass) is constant in bicarbonate content for many days.

(5) The oxalate may be tested for purity by comparing the carbon dioxide estimation on 1 cc. of 0.1 per cent. (anhydrous) sodium carbonate solution, containing 1 per cent. of potassium oxalate with that on 1 cc. of the 0.1 per cent. sodium carbonate containing no oxalate, each of these solutions having been treated with alveolar air previous to estimation. The difference in the two readings should not be more than 0.01 cc.

In a similar manner the caprylic alcohol may be tested by comparing an estimation on the carbonate solution made with the addition of the alcohol with one made without it. The caprylic alcohol is used to prevent troublesome foaming.

(6) The ammonia used in the method is freed of carbonate by treating 1 per cent. ammonium hydroxide with a little barium hydroxide solution, and after the barium carbonate has settled pouring off the clear solution, which is then treated with ammonium sulphate solution to remove the rest of the barium. After sedimentation pour off the clear liquid and keep it in a number of small bottles. Of course this solution must not be allowed to take up CO_2 by exposure to air.

The plasma is delivered below a layer of the ammonia solution in order to prevent the spontaneous loss of CO_2, which would result from even momentary exposure to the air.

(7) All the estimations reported in this paper were made before Van Slyke's articles appeared, so that the technic was not exactly the same as that described above. Tested reagents were used, and the blood was kept in paraffined bottles. But the blood was allowed to flow in a stream from the needle, and no oil layer was used. In most cases the blood could not be centrifuged at once, but stood a short time in a tightly corked bottle. In some cases there was a certain amount of venous stasis. The layer of ammonia was not used in the cup.

The estimations reported in this paper are undoubtedly a little lower than they would have been, if all the details of Van Slyke's technic had been known. They may in some cases correspond to the bicarbonate content of arterial blood instead of venous.

(8) As stated above, the table for calculation takes account of all the necessary corrections. The amount of air dissolved in plasma, distilled water, and sulphuric acid (0.04 to 0.05 cc.) are deducted and, on the other hand, the amount of carbon dioxide that is not extracted by the partial vacuum (4 to 5 per cent. of the total CO_2) is added. Car-

bon dioxide that is not present as bicarbonate but only as dissolved gas is deducted.

In every case the table corrects for the temperature at which the estimation was made in such a way that the amount of gas, on which the calculation is based, is that which would have been secured if the plasma had been saturated with alveolar CO_2 at 20°. And finally the volume of gas is reduced to what it would be at standard temperature and pressure.

*Notes on the apparatus.** It must be well supported. A heavy ring stand is satisfactory. The main bulb should rest on the (cloth covered) jaws of a burette clamp, and an iron rod should give support below the cock. The reservoir may be supported by iron rings which have been cut to allow it to be removed easily. We prefer a large conical separating funnel as the reservoir.

The rubber tubing connecting this to the apparatus must be heavy walled pressure tubing of the best quality (3.5 feet long). This should be tightly wired on to the glass. Rubber bands may be used to prevent the cocks getting loose. The cocks should be kept well greased with vaseline (but avoid getting vaseline into the holes) so that they turn easily and are gas tight. The mercury may be cleaned occasionally by filtering it through chamois. Mercury accidentally spilled will not be lost if the apparatus stands on a shallow wooden tray.

The method for determining hydrogen ion contration will be described more briefly because it is not so practical, and it can not be carried out properly without extreme care in the manipulations.

Blood is dialyzed, and the alkalinity of the dialysate is determined by adding to it an indicator and comparing the color of the solution with that of permanent standard solutions of known hydrogen ion concentration containing the indicator. The standards** are made by mixing solutions of KH_2PO_4 and Na_2HPO_4 in various proportions.

In carrying out the method the greatest care must be taken to prevent contamination. For instance, the dialyzer sacs and all the glassware must be tested before being used in order to prove the absence of traces of acid or alkali; the oxalate and sodium chloride must be tested for neutrality, and there must be no fumes of ammonia or acids in the room.

The dialyzer sacs are prepared from a thick collodion solution (made by dissolving one ounce of parlodion or Anthony's negative cotton in a mixture of 200 cc. each of ether and alcohol) by filling a test-tube (100 mm. long, 10 mm. inside diameter) having a flared lip, then draining it about ten minutes, soaking in cold water for a few minutes, loosening the top of the sac, and pulling it out. The sacs are preserved by complete immersion in distilled water that has been saturated with thymol.

For dialyzing the sac is placed in a special short test-tube (100 mm. long, and 14 mm. inside diameter), then both tube and sac are tested with *neutral* water containing some of the indicator (the color must not change), and rinsed with the neutral salt solution. About 25 mg. of finely powdered potassium oxalate is put into the sac and a few drops of salt solution are added. About 3 cc. of blood (2 cc. will do) is run into the sac from the syringe (the blood having been drawn as previously described) and exactly 3 cc. of 0.8 per cent. salt solution is placed outside the sac. Raise or lower the sac so that the surface of the blood and that of the salt are at the same level. Cover the dialyzer with a larger test-tube. Ten minutes is the shortest time allowable for dialyzing, but we advise twenty minutes for 3 cc. and thirty minutes for 2 cc. of blood.

The dialysate is poured into a long narrow test-tube (of the same diameter as the tubes containing the standards) that has been tested for neutrality. After adding 0.2 cc. of 0.01 per cent. phenolsulphonephthalein solution and mixing, the color is compared at once with the standards. The color comparison is most accurately made by holding the tubes against a white background. Light from the new daylight electric lamp (Peerless Mazda C2) may be used. The hydrogen ion concentration of the standard that most nearly matches the dialysate in color is that reported for the blood. The hydrogen ion concentration is ex pressed as a figure called the PH of the blood. The PH figure is really the negative logarithm of the true hydrogen ion concentration figure. For example, a neutral solution is a 0.0000001 normal solution of hydrogen ions; the log. of this decimal fraction is —7.0, therefore, the P. H. is 7.0 (the minus sign is ignored). The more alkaline the solution the greater becomes the figure. The blood of normal individuals is never more acid than 7.5 and seldom more alkaline than 7.7, when estimated by this method.

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* The glass parts of the apparatus may be secured of the Arthur Thomas Co., Philadelphia.

** A reliable set of the standards can be secured of Hynson, Westcott & Co., Baltimore.

Remarks:

(1) The spontaneous loss of carbon dioxide from the blood while dialyzing can not be controlled sufficiently to give uniform results. As CO_2 passes off, the blood becomes more alkaline. It is probable that blood having a PH of 7.6 when drawn, (i. e., before exposure to air) will give an estimation of 7.65 or 7.7. After the initial loss the blood seems to remain unchanged for several hours.

Duplicate estimations often differ by 0.025, sometimes by 0.05 in the PH figure.

(2) The salt solution is prepared from recrystallized C. P. NaCl and freshly distilled water, and the solution is to be kept in a pyrex flask tightly corked. The solution is tested for neutrality by removing carbon dioxide from 3 cc. by means of a stream of air (freed of CO_2), adding indicator, and comparing with the standards. It should practically match the 7.0 standard. The oxalate may be tested by adding it to another portion of salt solution before aeration.

This method is not of so great practical importance as the alkali reserve method, for the reason that the animal organism automatically responds to threatened lowering of the alkalinity (due to excess production of acids) by increasing the amount of CO_2 excreted (increased respiration), and thus the lowering of the CO_2 content of the blood keeps the PH within normal limits. Only in severe acidosis does this compensation fail, so that the PH is below normal. In the report of our results will be found some bloods having an alkali reserve distinctly below normal but a normal PH.

TABLE 1.

Alkali Reserve and PH of the Blood of Children.

PH	Alk. Res.	Age	Name	Condition
7.8	44.0	8 mos.	M. H.	Normal
7.6+	42.8	11 mos.	H. F.	Normal
7.6	41.0	10 mos.	L.	Normal
7.75	40.2	7 mos.	R. H.	Syphilis
7.7	46.7	11 mos.	F.	Syphilis
7.6	43.6	16 mos.	N.	Syphilis
7.6	45.7	20 mos.	R. B.	Syphilis
7.7	44.9	15 mos.	W. J.	Asthma
7.7+	52.4	6 mos.	K.	Meningitis
7.6+	49.0	10 yrs.	B.	Nephritis
7.7+	53.7	10 yrs.	B.	Nephritis

(The + sign indicates that the estimation was distinctly above the figure given.)

TABLE 2.

Alkali Reserve and PH of the Blood of Normal Young Men.

PH	Alk. Res.	Name	PH	Alk. Res.	Name
7.5	49.0	B. A.	7.6	61.3	C. C
7.5	52.8	B. U.	7.6	65.1	E. S.
7.5	57.4	G. Y.	7.6	67.8	A. P.
7.5+	58.1	V. Z.	7.6+	53.6	H. A.
7.5+	58.4	W. F.	7.6+	61.3	W. L.
7.55	55.4	D. A.	7.65	45.4	C. L.
7.5+	59.1	R. I.	7.65	54.3	M. C.
7.55	58.4	J. G.	7.65	58.4	E. J.
7.55	60.3	W. M.	7.65	61.0	G. D.
7.55	61.0	R. S.	7.7	49.1	R. L.
7.6	47.7	H. I.	7.7	50.9	B. E.
7.6	49.0	W. R.	7.7	54.7	W. A.
7.6	50.4	A. J.	7.7+	46.0	N. E.
7.6	51.6	A. K.	7.7+	49.8	E. L.
7.6	52.4	H. N.	7.8	64.1	I. G.
7.6	60.3	L. B.			

TABLE 3.

Alkali Reserve and PH of Normal Young Men in Whom Ketosis Was Induced by Diet.

PH	Alk. Res.	Urine Acetone Test	Urine Diacetic Acid Test	Name
7.6	51.5	Intense	Strong	W. F.
7.65	47.5	Intense	Distinct	J. G.
7.6+	60.1	Intense	Slight	C. C.
7.6	52.3	Decided	Slight	H. I.
7.7+	57.2	Decided	Slight	G. D.
7.6	54.3	Decided	Negative	W. M.
7.55	56.3	Distinct	Negative	A. J.

TABLE 4.

Alkali Reserve and PH of Adult Patients.

PH	Alk. Res.	Name	Diagnosis
7.55	33.0	G. A.	Tabes
7.5+	36.0	G. A.	Tabes
7.5	40.5	G. A.	Tabes
7.55	33.3	N. E.	Chronic nephritis
7.7	39.2	S. A.	Syphilis
7.7	39.4	L. A.	Diabetes
7.55	39.9	B. A.	Tabes
7.75	40.6	M. U.	Syphilis
7.7	41.2	B. I.	Static condition
7.5+	42.5	J. K.	No diagnosis
7.6+	43.3	H. A.	Nephritis
7.75	43.5	H. O.	Chronic infection
7.7	43.5	E. R.	Cardio-renal disease
7.7	43.8	N. W.	Gallstone
7.7	44.5	K. E.	Asthenia
7.6	44.7	M. A.	Cardio-renal disease
7.55	44.8	T. O.	Cardio-renal disease
7.6	45.0	S. I.	Duodenal ulcer
7.65	45.3	D. O.	Nephritis
7.5	52.7	L. I.	Myocarditis
7.5	54.5	H. A.	Nephritis
7.5+	58.1	R. U.	Syphilis
7.55	49.0	S. T.	Anaemia
7.55	57.5	F. R.	Diabetes
7.55	68.7	W. I.	No diagnosis
7.6	48.3	T. H.	Exophthalmic goiter
7.6	58.3	C. A.	Syphilis
7.65	49.8	N. I.	Gallstone
7.65+	50.2	B. T.	Diabetes
7.7	48.7	E. V.	Neurosis
7.7	51.1	V. A.	Cardio-renal disease
7.7	54.4	W. E.	Gallstone
7.7	58.5	P. H.	Syphilis
7.7	66.1	Mrs. D.	Diabetes

(45 other bloods which had to be omitted from the table gave estimations similar to the last 15 reported above.)

Discussion of the results * reported in the tables.

None of the diagnoses were made by the author.

In one case a preliminary diagnosis of acidosis was made on the basis of clinical signs, but the blood examination disproved the diagnosis (W. I., table 4, PH. 7.55, alk. res. 68.7).

However, none of the cases (the first 19 bloods of table 4), that show some degree of acidosis as judged by the alkali reserve, gave any clinical signs of acidosis. It is probable that acidosis of a moderate grade is very much more common than physicians realize. Possibly many of such cases would be helped by diet regulation or bicarbonate administration.

None of the bloods examined gave a PH estimation more acid than those reported for normal

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* A large number of the PH estimations were made by Dean P. Crowell under the author's supervision.

We gratefully acknowledge our indebtedness to students and others who furnished blood for the work, but most of all to Dr. Laurence Selling, who secured blood from a large number of his patients.

bloods. Among the 19 bloods having a low alkali reserve there is not so very much higher proportion of bloods having a PH of 7.5 or 7.55 than among the rest of the bloods examined. In order to reduce the size of table 4, forty-five bloods from patients have been omitted. Evidently the PH estimation is of no practical value in detecting moderate acidosis (the reason for this has been explained above).

The bloods of children (table 1) gave low alkali reserve figures such as Van Slyke reports to be normal.

Of interest are the results (table 3) secured in the case of students who were kept for a number of days on a diet very low in carbohydrates but somewhat high in protein. In none of them was the alkali reserve below normal, altho in the case of four men it was a little lower than it was later on an ordinary diet. Altho acidosis was not produced there was unmistakable ketosis (i. e., excretion of acetone bodies.) This would seem to indicate the importance of making careful inquiry as to the diet of patients, and also the necessity of checking up the diagnosis of acidosis by the estimation of the alkali reserve. In this connection a quotation from Van Slyke will be of interest: "The formation of acetone bodies has a significance of its own quite apart from the secondary effect which may or may not follow on the alkali reserve of the body." He has observed cases excreting as much as 20 grams of acetone bodies per liter of urine without the alkali reserve of the blood being below normal.

Altho Van Slyke's method estimates only the bicarbonate of the plasma while there are other *buffer* materials (i. e., substances that neutralize acid) in the blood, yet it gives a very reliable indication of the neutralizing power of the blood, since it has been recently proved by electrometric titration (which estimates the total buffer value) that the alkali reserve estimations run exactly parallel to the estimations of the total neutralizing power when comparison is made in a series of bloods.

CONCLUSIONS.

Van Slyke's alkali reserve method is reliable and of very great practical importance to every physician as an aid in diagnosis and as a check on treatment of acidosis. In fact many cases of acidosis would be overlooked without this method.

NON-PROTEIN NITROGEN IN THE BLOOD IN NEPHRITIS.*

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Since the days of Bright it has been known that urea accumulates in the blood in nephritis. The study of the non-protein nitrogen, incoagulable nitrogen, rest or residual nitrogen, as various writers term this substance, is of much more recent date. Strauss was among the first to systematically study the blood in nephritis. He, as well as other Germans, measured the non-protein nitrogen with the Kehldahl apparatus. This required so much blood that it could not be used extensively.

The real impetus to the study of this substance was given by the micro-Kehldahl technic, as worked out by Folin and Denis, whereby a correct measurement could be made with as little as 2 cc. of blood. The large clinics immediately adopted this method, resulting in four reports in 1914. Folin, Denis and Seymour from Harvard, Agnew from Ann Arbor, Frothingham and Smillie from Harvard and Tileston and Comfort from Yale.

Folin, Denis and Seymour measured the non-protein nitrogen in a large number of hypertension cases, comparing them with the normals. They concluded that the normal ranged from 22 mg. to 28 mg. to 100 cc. of blood, and found no marked change in subjects who merely had a hypertension.

Agnew compared the phthalein with the non-protein nitrogen, finding that the nitrogen was not increased where the phthalein was normal but, as the phthalein became reduced, the nitrogen rose in amount. He took 25 mg. to 30 mg. as normal, observing that all those patients having 60 mg. or over died inside of a few months.

Tileston and Comfort observed over 140 subjects suffering from various diseases. Their normals measured 22.9 mg. to 25 mg. per 100 cc. of blood. They observed a notable increase in the severe forms of nephritis, and noticed one case of uremia, in which the nitrogen rose to 324 mg. The only other condition in which there was a notable rise was intestinal obstruction, one case showing as high as 129 mg.

Frothingham and Smillie compared the phthalein and nitrogen, concluding "that many cases of nephritis show a normal phthalein output and have a normal amount of non-protein nitrogen."

"That the content of non-protein nitrogen in the blood varies in a rough way inversely to the output of phthalein."

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*Read before the Southern California Medical Society, Los Angeles, Calif., Dec. 6, 1917.

"And that the amount of non-protein nitrogen in the blood seems to be of considerable prognostic value."

Since 1914 the literature upon this subject has become very voluminous.

It will be of interest to know the various constituents of the non-protein nitrogen. Most of the authors agree that 50 per cent. of this nitrogen in normal subjects is urea. The remainder consists of uric acid, creatinine and amino acids. Myers, Lough, and Fine gave 12 mg. to 15 mg. for urea, 2 mg. to 3 mg. for the uric acid, and 1 mg. to 2½ mg. of creatinine to 100 cc. of blood. This leaves about 5 mg. to 10 mg. belonging to the group of amino acids. These are figures for normal subjects, but in the severe forms of nephritis the increase of the nitrogen is composed mostly of urea, so that if there is 100 mg. of the nitrogen present, at least 75 mg. would be urea. Myers and Fine, and also Chace, have observed that even before there is a noticeable increase in the non-protein nitrogen, there is an increase in its uric acid portion.

If the conditions grow worse, then the urea begins to increase, the creatinine remaining normal. Later, if the condition becomes still worse, the creatinine begins to climb. They believe they have been able in this way to divide the nephritides into three grades: the mild grade in which uric acid alone has increased; the more severe, in which there is an increase in both uric acid and urea; and the severe forms, in which not only uric acid and urea but the creatinine is also increased.

The effect of the various diets upon the amount of this nitrogen has been studied by Frothingham and Smillie, Mosenthal and others. They found that there was a marked increase in the non-protein nitrogen, following a high nitrogen diet. In some cases the amount of nitrogen was almost doubled on a high nitrogen diet, over the amount on a low nitrogen diet.

The effect of the ingestion of water upon the amount of non-protein nitrogen was studied by Foster. His observations are of most practical interest. He found that, with patients who were upon the same diet from day to day, there was a distinct variation in the output of nitrogen by variations in the drinking of water. Where water was cut down, there would be a plus balance and an increase of non-protein nitrogen in the blood. As a greater amount of water was ingested, the balance would become a minus balance, and the nitrogen of the blood would diminish. This fact is about the only clew that has ever been given in all the studies upon chronic nephritis as to when to use water freely.

The general conclusions of the various observers are that, if there is a decrease in the output of phthalein, it is very important to know the amount of the blood nitrogen; also, that where the nitrogen is increased, it is of greater prognostic value than any other test. The unfortunate thing is that, as a rule, nephritis is far advanced before there is an increase in the blood nitrogen. This danger signal does not occur early enough.

There is some difference of opinion regarding the normal amount of nitrogen, Janeway believing that it can be as high as between 40 mg. and 50 mg. in normal individuals, yet the majority of observers agree on 30 mg. being the usual upper limit. From our own observations we would conclude that it may be anywhere from 15 mg. to 30 mg., depending upon the diet the patient was taking, and we know of no case of nephritis where it was above 35 mg. in which the kidney compensation was not broken.

There naturally is a wide difference of opinion regarding the prognostic value of the various amounts of the non-protein nitrogen as it appears in the blood. Agnew states that in all cases studied, having incoagulable nitrogen of 60 mg. or more per 100 cc. of blood, death took place within a period of weeks, with the symptoms of renal insufficiency. From our own observations we would agree with this statement.

The only other condition reported, in which there was an increase of non-protein nitrogen, is in intestinal obstruction. This was observed by Tileston and Comfort. They found large amounts in cases of acute obstruction, in one case the nitrogen rising to 169 mg. to 100 cc. of blood, 114 mg. of which was urea. They suggested that the cause of the rise in intestinal obstruction was probably due to absorption from the alimentary canal. Whipple made similar observations in obstructions produced in dogs, and believed it was due to the absorption of a proteose which was present in the peritoneal exudate, forming in the animals obstructed. In the cases of obstruction that Tileston and Comfort examined, no nephritis was present.

We began measuring the non-protein nitrogen in the blood in the early part of 1915, and I have gone over our files and collected the reports of 100 cases of nephritis in patients seen in my wards at the County Hospital, and in the private practice of Dr. Fulton, Dr. Crispin and myself. In reviewing this series we endeavored to classify the cases into acute nephritis, chronic parenchymatous, chronic interstitial nephritis and uremias.

We found in four cases of acute nephritis the highest blood nitrogen was 42 mg., the lowest 32 mg., and the average 36 mg. In 18 cases of chronic parenchymatous nephritis the highest blood nitrogen was 72 mg., the lowest 15 mg. and the average 33 mg. In 45 cases of chronic interstitial nephritis, the highest blood nitrogen was 55 mg.., the lowest 10 mg., and the average 30 mg. In 33 cases of uremia, the highest blood nitrogen was 210 mg., the lowest 21 mg., and the average 67 mg. It is noted that the highest average was in uremia. The patient who had a parenchymatous nephritis and blood nitrogen of 72 mg. had pulmonary tuberculosis and a very severe nephritis, having a very large amount of albumin and many casts. Unfortunately we saw this patient only once and know nothing of the subsequent history, but we anticipate that he shortly passed into a state of uremia.

The patient who had blood nitrogen of 10 mg. in the chronic parenchymatous group had been vomiting for a number of days, from an unknown cause. In the cases of acute nephritis, chronic parenchymatous nephritis and chronic interstitial nephritis, the majority ran close to the average.

In classifying the series regarding the prospects of improvement into good prospects, questionable and bad, we found out of 38 subjects, having good prospects of improvement, the highest amount of non-protein nitrogen was 48 mg., the lowest 10 mg., and the average 29 mg. Of the 18 cases with questionable prospects of improvement, the highest amount was 55 mg., the lowest 14 mg., and the average 33 mg. Of the 44 with poor prospects of improvement, the highest was 210 mg., the lowest 21 mg., the average being 57 mg. In these cases, the averages show the general tendency of the nitrogen to increase as the condition becomes more severe. In the 82 cases in which systolic and diastolic blood pressures were recorded, there was a complete disassociation between blood pressures and the amount of nitrogen. For instance, one patient with 14 mg. of nitrogen to 100 cc. of blood, had a systolic pressure of 213 mm. of mercury and diastolic, 145 mm., while another patient having 73 mg. of nitrogen had a pressure of 180 systolic and 120 diastolic.

In the 45 subjects upon whom phthalein estimates were made some interesting things were observed. We divided this series into those having a normal phthalein (taking 50 per cent. or above as normal), those having 30 to 50 per cent., those eliminating 15 to 30 per cent., and those eliminating below 15 per cent. There were 18 patients whose dye output was normal. In this series the highest nitrogen was 55 mg., the lowest 14 mg. and the average 30 mg. Three patients in this group had high blood nitrogens, one having 55 mg., one 47 mg. and one 43 mg. The patient with 47 mg. had just had a nephrectomy for a tuberculous kidney, the increase probably being the results of the anesthetic and operation. The one with 43 mg. was a patient with retinal hemorrhages, detached retina, and all the signs of severe interstitial nephritis, with the exception of anemia. She was on a low protein diet, yet her nitrogen was high. These were the only patients we have seen who did not conform to the rule of a normal phthalein, a normal nitrogen.

In the series whose phthalein output was between 20 and 30 per cent., there were 11 cases, the highest being 55 mg., the lowest 10 mg., and the average 29 mg. Twenty-five per cent. of this number had a nitrogen estimation which was too high, the average being brought down by such cases as the one having phthalein 48 per cent. and nitrogen 10 mg. The third group, whose phthalein output was 15 to 30 per cent., numbers six cases. The highest nitrogen was 37 mg., the lowest 22 mg., and the average 30 mg. The fourth group numbered nine cases, with the lowest estimation at 21 mg., with the highest at 105 mg., the average being 53 mg. These patients were all in a uremic or preuremic state. Thus, we see, in general, as the phthalein goes down, the nitrogen tends to increase, and especially after the phthalein is below 15 per cent. the nitrogen becomes high.

Some interesting lessons may be learned from the group of 33 subjects suffering from uremia. We class those into unknown and dead, as there were none known to be living. We found that there were six unknown and 27 dead. The percentage of unknown is so high because a number of these cases were from the County Hospital and as soon as improvement began they were lost sight of. None of those belonging to the group of unknowns had a nitrogen of over 60 mg. Of those who had died, a number had a nitrogen about 100 mg. No case in this series recovered whose nitrogen increased after being placed under treatment. There was a drop in a few days, or the patient did not recover.

The natural question would be how high may the nitrogen go and yet recovery take place? When we speak of recovery, we mean a marked remission, for no one whose kidneys are damaged enough to have uremia can ever become normal again. One case whose nitrogen was 110 mg. to 100 cc. of blood upon a moderately low protein diet, when placed upon a protein free diet for a short period and then on a low protein diet, had a drop to 40 mg. and remained fairly well for several months, but finally became unruly and had a relapse, dying shortly.

An interesting thing in the examination of this patient was that, while in coma upon a rather low protein diet, he was passing 3000 cc. of urine containing 30 mg. of urea. From whence did the nitrogen come? For he was eliminating more than he was taking in and yet it was piling up in his blood. We have observed this in several instances and must conclude that there is an increased incomplete nitrogenous metabolism, possibly similar to the one Mosenthal has shown taking place in dogs, in which a moderately severe artificial nephritis was produced.

In but three cases in this group who died was the nitrogen below 35 mg., one of these staying upon repeated examination in the region of 18 mg. to 21 mg., yet this was a classical case of uremia developed upon an interstitial nephritis as a base. This leads us into the much discussed field of the cause of uremia, which is foreign to this paper. However, we are justified in noting that of the 35 cases of uremia, all had an increased blood nitrogen but three, and before these three died they may have had an increase. Foster's conclusions are that uremia is due to a toxin of nitrogenous origin, which he intimates he has been able to isolate. We also know that the substances isolated in the non-protein nitrogen do not cause the uremia, but they apparently, as a rule, increase and decrease in proportion to the toxin that does cause the symptoms.

In summing up our observations, we can say we agree with Agnew, Frothingham and Smillie, and others, that as the phthalein decreased, the nitrogen increased, and in our series most of those cases whose phthalein was below 15 per cent. have died, all but one having a high nitrogen. To properly prognose a kidney inflammation, in which the phthalein was low, we should wish to know the amount of blood nitrogen. The phthalein may be markedly diminished and yet the kidneys may have good functionable ability but, if the nitrogen is distinctly increased, we feel the kidney reserve is gone and that the outlook is usually bad.

Best of all, we believe the measurement of the blood nitrogen has given us a definite knowledge of when to use water freely and when to diminish or when to increase the proteid in our patients' diets. It is unnecessary to give extremely low protein diets in all cases of nephritis. In many it is positively injurious, for it increases the anemia which is so frequently marked in this condition. But we feel that, when the nitrogen is increased, it is imperative to cut the nitrogen intake as low as possible until the amount in the blood falls to normal.

TRANSFUSION OF BLOOD BY THE DIRECT METHOD WITH OBSERVATIONS COVERING AN EXPERIENCE WITH OVER FORTY TRANSFUSION OPERATIONS.*

By WILLIAM C. SPEIDEL, M. D.

SEATTLE, WASH.

A compilation of facts gleaned from the work of others is worth much, but in so gathering one is very apt to lose sight of self. We learn from those immediately about us and the world at large, but most enduring is that which we experience as individuals. In presenting the following cases I have the temerity to offer some of my ideas, coming directly to the subject without historical mention.

I desire to put before you the results of this therapeutic measure in the treatment of hemorrhage, the indication par excellence. Transfusion of blood is not a panacea but that it is of immeasurable value in certain well selected cases and in some few instances a life saving device, the following cases certainly attest.

In regard to the indications for its procedure I will not burden you with an elaborate list of such but will cite a few cases to bring out the broad general indication, hemorrhage, extreme, acute, prolonged, profound or exhausting, from whatever cause.

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* Read before Seattle Surgical Society, Seattle, Wash., April 27, 1917.

Case 1. Longacre, age 36, postoperative, tonsilectomy, referred by Dr. M., Providence Hospital. Uncontrollable hemorrhage during a period of hours after every known means had been tried, including compression, various hemostatics as coagulose, horse serum, glycerite of tannine, calcium chloride, cracked ice, suturing pillars and normal saline intravenously. By this time the patient was in extreme shock and unconscious, pulse running 160-170 of thready character and patient was practically bloodless. A big healthy Italian with good volume pulse was chosen as donor and direct transfusion operation performed. A good arteriovenous connection was established and blood allowed to flow across for twenty-five minutes. Recipient picked up immediately and made an uneventful recovery.

Case 2. Mrs. F., age 21, married, referred by Dr. Hill. At regular menstrual period developed persistent hemorrhage. Packing, horse serum injection, calcium lactate in large doses were of no avail, hemorrhage continuing to a point of complete exsanguination, when direct transfusion was performed, using husband as donor, a healthy plethoric young man. Good connection, good flow for twenty-five minutes. Improvement immediate, hemoglobin increasing from 22 to 60 per cent. and so continued. Patient recovered, left hospital in five days, no further hemorrhage.

Case 3. Mrs. H., Minor Hospital, 59 years of age, widow, referred by Dr. H. Gastric ulcer past five years. Hematemesis profound evidently due to erosion. She was pale and practically pulseless, with tissues blanched and in a state of preagonal delirium. Transfusion by the Kimpton-Brown tube method having failed, and one son no longer available owing to obliteration of veins of both arms, a second son was used and a direct operation performed by cross circulation. Time forty minutes with recovery as unexpected as it was spectacular. Never too late to do or die. We did and she did not die. Patient left the hospital in nine days and has been up and doing ever since—now two years.

Case 4. Gastric hemorrhage. Mrs. W., City Hospital, age 29, married, one child. Present trouble began one year ago with indigestion and constipation. Pain begins just after eating; vomiting two hours after meals every other day; vomiting relieves pain. Last night vomited large quantities of blood. Present complaint is weakness, expressed wish to die. Blood examination shows Hb 40; r. b. c. 1,820,700; w. b. c. 11,200. Provisional diagnosis gastric ulcer, with erosion of vessel.

After testing out blood for hemolysis and agglutination, Mr. W., 27, was used as donor. Arteriovenous connection established, blood allowed to flow across for thirty-two minutes. Hb. jumped from 40 to 65 per cent.; r. b. c. from 1,800,000 to 3,100,000. Two weeks later gastroenterostomy was performed. Operative findings were generalized oozing, with hemorrhagic gastric mucosa. Complete recovery with no further hemorrhage following.

DaCosta's explanation relative to this condition states that for some unknown reason these cases always recover following such operative treatment. Patient left the hospital fourteen days after the stomach operation with Hb 70 per cent., r. b. c. 3,800,000 and has been working practically ever since.

Case 5. Progressive anemia, J. B., age 51, single, native of U. S. A., King County Hospital, referred by Dr. Fick and Waldo Richardson. I will not go into detailed history of this case, as I feel the blood picture itself represents more graphically the condition than anything else I might say.

March 28, 1914, Hb. 5 per cent., r. b. c. 505,000. A full blooded young German volunteered as donor. A good connection was established between his radial and medium basilic of the recipient. Blood was allowed to flow across fifty-eight minutes. After transfusion Hb 22 per cent., r. b. c. 1,020,000. April 3, five days later, second transfusion. Hb 27 per cent., r. b. c. 1,528,000 before operation; after Hb 40 per cent., r. b. c. 2,200,000. Has been progressively better. Two months later Hb rose to 67 per cent., r. b. c. 3,200,000. Five weeks after the second transfusion a skin eruption developed and blood test showed xxx positive Wassermann. In this case denial of venereal infection proved insufficient and was a serious misstep in manipulation of the case.

I will not go into further recital of cases. Among the cases treated and included in my list, those above mentioned proved life saving. In addition are 16 of pellagra, 7 of pernicious anemia, water gas, carbon-monoxide poisoning, crushing injury of the leg, gunshot wound of the leg, stab wound of the chest with hematothorax, hemorrhage neonatorum, puerperal sepsis, thyroidectomy plus hemorrhage, intestinal hemorrhage due to eroding duodenal ulcer, cases in which it proved of sustaining and palliative value but in some of which the results were materially complicated by the accompanying state of severe hemolytic infection or extreme condition of shock.

Under technic I do an arteriovenous anastomosis by means of the Elsberg modification of the Crile canula, and find it most satisfactory and comparatively simple over that of the Crile canula which was used in the pellagra cases above mentioned. As an additional step to the usual technic I make a practice of suturing the cut ends of the radial artery. This seems inconsequential, owing to the rich collateral blood supply, but it serves to restore the vessel to its normal anatomic and physiologic state. I wish to bring out a point under the present head. Owing to the collapsed condition of the vessel, particularly the veins in an anemic individual, especially in children, without hesitating choose either the femoral or internal jugular and do not waste valuable and vital time hunting for smaller vessels of the arm. In selecting a donor two things must be guarded against; first, transmission of disease, for example syphilis, as shown in case five, above mentioned; second, hemolysis and agglutination, for it is now commonly accepted and occasionally tragically illustrated. By not so doing we may be imposing an additional complication to an already grave condition.

In conclusion and in summarizing certain points are to be noted. In case 1, beside the various coagulants used, normal saline in intravenous was used but was insufficient, illustrating the principle that in order to maintain the increase of blood pressure a colloidal solution like blood is superior to a crystaloid or saline solution which is readily diffusible and quickly eliminated.

In case of hemorrhage, due to erosion of vessels, a transfusion with its increase in blood pressure seemingly does not add to the danger of increasing hemorrhage as would at first appear, if we are warranted in drawing conclusions in these two gastric cases, one an ulcer, the other a generalized oozing of the gastric mucosa. It is certainly advisable to make a blood test for possible transmissible disease even when infection is denied. The old saying, "In syphilis suspect your grandmother," should be borne in mind.

In regard to primary anemias there is yet much work to be done. Ward states in his book on hemotology that the best stimulants to blood-making organs are the products of blood destruction. Therefore I would suggest that defibrinated blood be given a broader chance in the treatment of these conditions by the indirect method. I believe also there is much to be done along the line of refusion of blood, as tried in certain cases of anaphylaxis, of which asthma is a striking example. We are learning more and hearing much about protein floating in the blood as an active causative in this condition, in which the rational method of active immunization consists of repeated injections of small doses of the causal protein.

In defense of direct transfusion I will say that I have found it very satisfactory and technically always unfailing and I cannot say as much for indirect method. One of my cases successfully performed followed a failure with the Kimpton-Brown tube method. I have heard of another such failure, due in all probability to unobservance of technical points and the fact that blood is thicker than water. I have succeeded in doing a direct where I failed with the citrate method which in common acceptance "he who runs may do," and I have succeeded and failed with the syringe method.

That the citrate method is not free from danger we may also read from Simon's report of cases, in which he recounts failure due to chemical and severe reactionary changes which were not purely coincidental. In other words, this method is not to be used with impunity. That it is not always safe to allow blood to stand for some time and then inject is shown by the experimental work of Novy, in which he finds that 10 cc. of rabbit serum, injected immediately upon withdrawal into a guinea pig, is non-lethal, whereas two cc. of the same serum, allowed to stand three minutes and then injected, is fatal. This would tend to substantiate the danger of using blood which has been allowed to stand for some time.

The mechanical, chemical, thermic and physiologic damage that takes place in blood by manipulating the same thru foreign avenues, substances, tubes, air, etc., remains yet to be determined. Along this line Bigland of the *Quarterly Journal of Medicine,* London, reports an interesting arbeit on the fragility of red blood corpuscles. In jaundice the resistance of the washed red blood corpuscles is markedly diminished, while the protective action of the serum is markedly increased. In all the anemias except pernicious the corpuscular resistance is increased. In exophthalmic goitre and paroxysmal hemoglobinuria the corpuscular fraility is normal. In polycythemia the resistance is increased. A high temperature appears to increase corpuscular fragility. These dangers are obviated by an intima to intima method. The ideal transfusion is that which occurs thru the placental circulation between mother and fetus. Toward this ideal we should labor, and direct transfusion is the closest approach. It is normal, it is physiologic.

519 Cobb Bldg.

A NEW METHOD OF OBTAINING BLOOD FOR DIAGNOSTIC PURPOSES IN INFANCY WITH A PRELIMINARY REPORT ON LONGITUDINAL SINUS TRANSFUSION.*

By Earl Mendum Tarr, M. D.
PORTLAND, ORE.

Routine blood examination, especially in hospital practice, has become a more or less universal procedure. The value of the Wassermann test is so definite that few hospital cases presenting a specific clinical picture escape this confirmatory test, and the increasing necessity of obtaining sufficient blood from infants for diagnostic purposes has made it necessary for us to discover, if possible, a more satisfactory method. The difficulty with which an infant's vein is entered, either directly or after cutting down upon it, is apparent, but only those who have met with repeated failure in the attempt to obtain blood via this route appreciate fully the difficulty.

The heel-splitting operation has been practiced extensively in some institutions but can never become a popular procedure. Quite recently a patient was admitted to the wards of the Infant's Hospital in Boston and transfusion was necessary to save its life. The heel had been split to obtain blood for a Wassermann and all attempts to control the subsequent hemorrhage were inadequate. I mention the method only to condemn it.

There is a place, however, that is far superior to all others for the purpose of obtaining blood in sufficient quantity for accurate diagnostic work. I refer to the superior longitudinal sinus. From an anatomic point of view this is quite accessible. The sinus grows gradually larger toward the back of the head and for this reason it is well to puncture the fontanelle as far posteriorly as possible. The fact that the course of the sinus does not vary and that the landmarks are so definite enables one, with a little practice, to accomplish with ease and certainty that which has heretofore been a difficult and uncertain procedure.

To obtain blood for a Wassermann the following technic is suggested. An ordinary 5 cc. Luer syringe and a short hypodermic needle of rather large caliber are boiled for ten minutes. The infant is wrapped in a blanket and the area over the fontanelle is cleansed with soap and water. Shaving is not essential. With the index finger of the free hand the posterior angle of the fontanelle is located. Keeping in the mid-line, the needle is introduced as near the angle as possible. On entering the sinus one gets the same definite sensation of being within the lumen of a vessel as one does in piercing the dura in doing lumbar puncture. Gentle and even traction on the plunger will bring forth a steady stream of venous blood.

In September of 1915 Helmholtz, of Chicago, puublished his first paper bearing upon this route as the most suitable for intravenous medication. At that time Dunn and Howell, of Boston, were using the sinus route for intravenous medication and also obtained blood for their routine Wassermann tests via this route. They found it simple and superior to all other methods previously used. Many of the cases admitted to their service were practically moribund when first seen and all of these babies were given dextrose solution directly into the sinus. The promptness with which most of them responded was marvelous and I think it reasonable to presume that several lives were saved in this manner.

Bearing in mind the negative pressure within the sinus, it is the custom always to withdraw blood before injecting anything, in this way making certain that we are actually in.

For the ordinary injection of dextrose solution I use the method suggested by Bilderbach and is as follows. A 20 cc. Luer syringe is used in most instances. A piece of rubber tubing four inches long, a glass window of about two inches and a second piece of tubing one and one-half inches long into the end of which is slipped the butt of a hypodermic needle are all that is required. This outfit can be sterilized and carried in a bag ready for immediate use and dextrose solution can be prepared in the average home in fifteen minutes. A container of dry dextrose is, of course, a part of the outfit.

It has been suggested that considerable trauma may be produced by the repeated puncture of the vein. I shall dismiss this supposition by stating that in one case in which the vein had been punctured twenty-one times during the course of ten days no evidence of trauma was noted at autopsy. In twelve other cases that came to autopsy the vein was examined by Bilderbach and not the slightest evidence of injury was found. These veins had all been punctured from one to ten times.

To date I have entered the sinus 507 times for blood and have been disappointed but three times. Dextrose solutions have been administered to ninety-four infants under two years one or more times. Salvarsan and diarsonol have been administered to fourteen infants under two and to one child twenty-eight months old. Thirty-one cases of acidosis in infants under two years were treated with alkaline solutions intravenously with twenty-six recoveries. One child three years old was so treated and discharged well on the tenth day after admission. In this instance the fontanelle was cartilaginous and a gold plated lumbar puncture needle was used.

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*Read before the Montreal Medico-Chirurgical Society, Montreal, Ont., Nov. 3, 1916.

For blood transfusion the sinus route makes the technic so simple that it can be successfully carried out in most cases by the surgeon in the private home without any elaborate paraphernalia. Of the various transfusion outfits on the market much might be said. I have used them all and find the Vincent tube the most practical. It is simple, inexpensive, and has met all of the requirements that seem worthy of mention.

So far as I have been able to learn, the first blood transfusion via the sinus route performed in the Dominion of Canada was done by the writer early in July, 1916. The patient, an infant of five months, was suffering from infectious diarrhea, of the Flexner-Manilla type. The history is not unlike that of a number of similar cases that presented themselves for admission to the hospital and in view of circumstances is worth consideration.

Baby C. was born at term after a normal labor and weighed 4.2 kilos. He was nursed by the mother for one month and did well, at which time he weighed 4.7 kilos, a satisfactory gain. About this time Miss L. (who is awfully good in sickness) dried her hands on her apron, slicked back her straggly locks and called to see the new baby. He was a lusty little fellow but the mother was apparently dying by inches, due to the strain imposed upon her by nursing him. Our friend insisted that Allenbury's No. 1 was the only ideal food for babies, so, carried away by the fables that were heaped upon her, the young mother buttoned her blouse and hurried to the nearest drug store. The baby was fed "according to directions on the box" and promptly rebelled. Allenbury's No. 2 was tried with no better result. A bright boy behind the counter suggested that Mellin's food was just what all babies liked and for his advice he was allowed to register a sale of a two-pound can. For a week the infant did fairly well and then begun to have watery stools. Soon he was vomiting. Eagle brand condensed was tried (according to directions on the tin) and still the baby did not seem perfectly happy. Then came Nestle's, Benger's, Dennos, and Vinol.

After this last bombardment the baby seemed to take very little interest in things in general and the mother thought it might please him to be weighed. He was then five months old and weighed 3.2 kilos. The weather was hot and within a few days he was having bloody mucous stools to the extent of twenty or more daily. He was vomiting all food given and arrived at the hospital in a condition so extreme that transfusion was immediately arranged for.

An hour later the father arrived from a munition plant and served as donor. The Vincent tube was used and 120 cc. of blood was transfused via the longitudinal sinus. Before the procedure was over the infant showed signs of improvement. An hour later his temperature had come up from 97° to 98.4° and his color was fairly good. During the night he was given two doses of dextrose solution, in all 110 cc., into the sinus, and on the following morning was given water by mouth. Recovery was slow but satisfactory and twenty-nine days later he was discharged to the Chalmer's House Milk Station, weighing 4.1 kilos. He is at present on a percentage feeding of cow's milk and weighs 7 kilos.

Several other cases that came to transfusion gave a history of having been fed exclusively on proprietary foods. Most of these babies were under the care of physicians who contend that the milk supply of Montreal is so questionable that condensed food is always preferable. It is rather interesting to note that of 203 cases of diarrhea—infectious and non-infectious—that were admitted to the hospital during the months of June, July, August and September, only five were on home modifications of cow's milk, a fact more or less significant.

Twelve infants have been transfused with ten recoveries. The average amount of blood given was 150 cc.; average time required for transfusion twenty minutes. In nine cases the Vincent tube was used. In the remaining three cases citrated blood was administered with a 20 cc. Luer syringe. The sinus route was chosen in all cases. Seven of these cases were transfused on the kitchen table at home, the remainder in hospitals.

The first fatal case was that of a luetic infant nine days old who was bleeding from the bowel and umbilical stump. The other, a patient of Dr. Malone (Montreal Maternity Hospital) was seen after five days of treatment with serum and calcium lactate, which had been unsuccessful in controlling hemorrhage from the bowel, cord, mouth and nose. He was a hopeless case but was given the benefit of the doubt and within six hours the hemorrhage had ceased. His general condition was altogether unfavorable and he died two days later. Had he been seen sooner the transfusion might have saved him.

The indications for transfusions in infancy are, as yet, limited, but with a broader understanding of the etiology of certain obscure cases and with the perfecting of a perfectly satisfactory technic there is reason to presume that the scope of transfusion will expand. So far I have limited this treatment to the hemorrhagic diseases of the new-born, posthemorrhagic anemias, hemophylia, and to a class of atrophic infants suffering from toxic and septic infectious diseases. These latter are always in such extreme condition when they finally arrive at the hospital that the use of blood rather than dextrose solution seems more heroic.

From the communication here offered, as a preliminary report, I feel justified in deducing:

(1) That this method of obtaining blood is safe, simple and practical.

(2) That it can be done in any home as well as in a hospital:

(3) That very little paraphernalia is required.

(4) That intravenous medication may be attempted by the general practitioner under ordinary circumstances.

(5) That blood transfusion via the sinus route offers many advantages over other methods and it should be added as a therapeutic measure in the treatment of many diseases, including hemorrhagic diseases in the new-born, in primary hemorrhage, posthemorrhagic anemias, hemophylia, and in the treatment of marasmic infants suffering from toxic and septic acute infectious diseases.

PRACTICAL CONSIDERATIONS IN BLOOD-PRESSURE.*

By W. T. Woolley, M. D.
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Viewed from the standpoint of physics, comparing blood-pressure to water circulating in a closed circuit comprising tubes of differing but unchanging lumen, the factors initial force and distal resistance would determine pressure. This simple conception may partially explain the public interest in this subject. Apoplexy conceived as the bursting of a vessel from too great force within is doubtless for many a first pathologic concept.

Considered medically, the problem at once grows intricate. The source of initial force, the left ventricle, is subject to vital change. Its power and rate of contraction may vary almost from moment to moment. The circulating medium, the blood, may alter in its viscosity, the blood vessels may relax or contract in differing degree, pressing forward or retarding the blood, varying the amount of friction to be overcome, this change being affected by delicate vasomotor action still imperfectly understood. It in turn is subject to emotions, muscular or toxic factors, nor can we disregard the action of the endocrinous system, continually becoming more prominent, central control, degenerative changes in the vessel walls which limit their power to expand and contract, nor lastly, the capillary fields, the interchange between the arterial and venous systems which may to a very considerable degree even be eliminated, as witness the dull inelastic skin of the aged and their slight bleeding from superficial cuts. With so many factors, to each of which its definite importance must be assigned, it is small wonder that blood-pressure has presented another real problem to be investigated, and that experience has altered in many ways theoretical postulates.

What real value has blood-pressure? How is it determined? How, and in what degree does our knowledge of it assist in practical problems attending the practice of surgery and medicine and in estimating reasonable expectancy in life insurance? It is the purpose of this paper to mention these briefly in the order mentioned and, insofar as possible, state proven facts.

The auscultatory method, familiar to all, with the use of the self-retaining stethescope, should be employed to the exclusion of palpation. By this method diastolic-pressure is determined as a fact and not as an opinion. It is well to disregard as a practical measure the confusing four or five sound phases, painstakingly described by many authors, and to consider systolic-pressure the point where regular beats appear after obliterating pressure has been applied and then gradually released; and diastolic-pressure the point where the sound suddenly softens immediately before its complete disappearance. In the great majority of normal cases the mark 100 on the Tycos instrument is between these points.

Personally, I have chosen this point arbitrarily and, my cuff being in place, I apply pressure quickly to this point, pause a moment to pick up the heart sound, then slowly increase pressure, listening meanwhile until the sounds disappear, then release the air, gradually detecting the beats first regular on decreasing pressure. This is the systolic reading. I then continue to release pressure until the point already referred to is reached, namely, where the sudden soft sound displaces a louder, immediately before their total disappearance. This is the diastolic reading. Pulse-pressure, of course, is merely the difference between these two.

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*Read before Twenty-eighth Annual Meeting of Washington State Medical Association, Spokane, Wash., June 20-22, 1917

Having determined these readings, it is well to release all air pressure for a few seconds, allowing the circulation to reestablish itself, then repeat the procedure as a check upon the accuracy of the first reading, looking away meanwhile from the instrument to remove mental suggestion as to where the sounds should appear. It is well to assure the patient that the procedure is painless and, if he appears nervous, to take a few minutes in counting the pulse while he is becoming accustomed to the cuff about the arm. This entire procedure certainly occupies not more than two minutes and frequently no more than half that time. One who has observed how quickly the pressure of a tourniquet may cause an edema obscuring a median basilic or cephalic vein, into which he expects to inject salvarsan, can easily believe that any considerable length of time expended in taking the reading, with pressure meantime applied, may materially affect its accuracy. The attempted practical nature of my paper is my excuse for mentioning my personal method.

We are indebted to Porter of Harvard for observations in blood-pressure in conditions of shock experimentally conducted on laboratory animals and practically observed on the fighting front of France. His conclusions are that shock from trauma, essentially a vasomotor phenomenon, most frequently or invariably is attended by a low pressure. When the diastolic-pressure falls sufficiently, the patient bleeds to death into his own portal veins, the obvious remedies for which are, first, gravitation, the foot of the bed being lifted, the patient's head lowered; second, the injection of normal salt solution; third, heat; fourth, the use of adrenalin. His recommendations on this subject presented to the French Academy last year, and installed in their hospitals, have been credited with lessening the death rate following serious trauma in the present war. He mentions a diastolic-pressure of 50 mm as critical. This may be chosen as a practical point, equally applicable to surgical procedures in civil practice.

During operations the advantages of having the anesthetist observe the blood-pressure are apparent. A preliminary study also might be of value in deciding the advisability of surgical measures. An elevated pressure after head injury suggests intracranial hemorrhage.

Before attempting to interpret blood-pressure findings in medical conditions, it is desirable to have an accurate normal standard. The rule of Faught to consider systolic-pressure of 120 mm normal at age of twenty, and to allow an increase of 1 mm for every two years in age above this point, with a diastolic-pressure from 25 to 40 points less, affords a practical starting point, it being recognized that this standard is elastic, as in normal pulse-rate, within recognized limits.

Considering the problem medically, assuming a patient to present himself with a high blood-pressure, what pathologic conditions will be suspected? We are indebted to Janeway, a pioneer in blood-pressure, for the answer we shall make. He was able accurately to keep under observation and record often after many years the causes of death in a large number of patients, in whom hypertension was marked, as gradual cardiac insufficiency, gradual uremia, acute uremia, cerebral apoplexy, pulmonary edema and angina pectoris. Frequent in the sequence mentioned were the fatal endings in most cases.

The symptoms from which these patients frequently suffered, and from which they sought relief, were dyspnea either upon exertion or of the paroxysmal type, edema of lungs or legs, urinary disturbances, headache, visual disturbances, loss of flesh, neurasthenic conditions and angenoid pains. When any of the above mentioned are present, a routine examination certainly should include the use of the sphygmomanometer.

I am particularly impressed by the frequency with which hypertension and albuminuria are associated. In value second only to a Wassermann test would a reading prove in suspected aortic aneurysm, for Osler considers a high pressure next frequent to a mesaortitis in the etiology of this condition.

The routine care of pregnancy demands blood-pressure readings as it does urinary examination, and impending eclampsia sometimes may be discovered. As oculists frequently recognize nephritis from retinal examinations, so might they find the sphygmomanometer of corroborative value in some eye conditions. An aural tinnitus also would suggest its use. Aortic regurgitation mechanically requires an elevated pressure, and this we find present together with the cardiac hypertrophy which supplies the needed force.

In the treatment of pneumonia, especially making a prognosis at the critical time, we will find readings of value. Gibson's rule that "when arterial pressure expressed in millimeters of mercury does not fall below the heart rate in beats per minute, the augury is excellent and the converse equally true," has been confirmed by Tice in a recent number of the *American Journal of Medical Sciences.*

No article on this subject is complete which does not consider elevated pressure dependent upon toxic states. When this is recognized before the tension has occasioned permanent sclerotic arterial change, none other is so amenable to treatment. Faulty proteid metabolism with its protean manifestations is doubtless the genesis of many, possibly most, of the medical conditions mentioned in this paper. The work of the Battle Creek Sanitarium along this line must be commented upon and their beneficial treatment recognized. Bishop's suggestion to allow a considerable quantity of one proteid food, analagous in a measure to von Noorden's oatmeal diet in diabetes, may render less arduous the adherence to a low proteid diet.

The treatment of elevated pressure is the treatment of its cause and is often unsatisfactory. Hygiene and diet are above medicines. If syphilis is present, its usual drugs should be given. Beginning cardiac decompensation calls for digitalis. Venesection may rarely avert a threatened calamity, at least temporarily. The routine use of vasodilators is obsolete. To reduce pressure without altering its underlying cause may be unwise. Moderation in most things one likes, abstinence from what he likes best seems to me to summarize the best treatment of elevated pressure in the robust type of man who is absorbed in his business, overfond of his food and who uses both tobacco and alcohol.

Treating our subject from the view point of insurance, theoretical considerations are at once replaced by cold facts. A hypotension spells low vitality. Ultimately tuberculosis will claim undue toll. Pressure of 150 mm or above, no other abnormality being apparent, will show mortality more than twice that which is general at the same age. A pressure of 180 mm or above renders the individual too great a hazard for any wise estimate of life expectancy.

ACNE VULGARIS.*

By Warren Brown, M. D.
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In view of the fact that this society enjoys so many high grade scientific papers it is with some diffidence that I undertake to present a paper on the homely subject of acne. Among all the patients who apply for relief from skin ailments one out of every ten has acne. The appearance of a new patient with acne is likely to ruffle the equanimity of any doctor, yet it is an entirely remediable disease if properly managed.

Because the disease is so common I shall endeavor to present a compact practical method of treatment that I have personally tried out. I do not claim originality for the technic but I do claim that my adaptation of many features of the treatment is original. The ideas, herein presented, have been gathered in various dermatologic clinics. I have also searched the best monographs and journals. Among the monographs from which I have freely drawn are those of Zeisler, Ormsby, Knowles, Engman, Montgomery, Cunningham, and many others. I am not going to take up your time by reading a paper containing text book facts that are familiar and available to all. I hope to present the subject of acne in a general way with special emphasis on etiology and treatment.

My conception of the causation of acne is a little different from that usually described in textbooks, altho in a recent monograph Zeisler mentioned many of the etiologic factors that I shall describe. For many years I have been convinced of the relationship of sexual disorders to acne. Four years ago, when Hertoghe, of Antwerp, wrote his classical paper on thyroid deficiencies, I began to study the relationship of disturbances of the internal secretions to various skin maladies. These studies have been fascinating and I may modestly say that I have obtained many practical results therefrom.

Very significant is the fact, as pointed out by Zeisler, that acne never occurs before puberty and has a natural tendency to disappear during married life. Its occurrence chiefly during adolescence, its activity during the menstrual period, the fact that it is so often present in girls who have been long engaged to be married, and, finally, that it is so common in young people who are addicted to masturbation, lead us to consider the subject of acne from a different angle. Insofar as my experience goes, it seems to me that disturbances in the physiologic action of the generative organs is the basic element in the causation of acne. Moreover, from an analysis of a large number of private cases I am led to believe that the microbic influences as well as digestive disturbances are secondary etiologic factors. Microorganisms cease to be detrimental as soon as a young woman enters matrimonial life. It is admitted that a coarse skin, poor in elastic fibers, is predisposed to acne. Those who have skins that are of this type usually have disturbances of internal secretions as well as abnormalities of the genital organs.

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* Read before Pierce County Medical Society, Tacoma, Wash., June 12 1917.

It has been my observation that many young women who complain of acne also exhibit slight Basedow symptoms; others display symptoms indicating deficient thyroid functioning. These conditions are seen so often in young women who have masturbated that it seems altogether plausible that the habit causes a perverted functioning of the sex glands and that a sort of vicious circle becomes established. Masturbation causes ovarian congestion and irritation. The ovaries become turgescent and remain so during the menstrual period. Dysmenorrhea and intermenstrual pain is frequent. Overaction or deficiency of the gonads or sex glands disturbs the general hormone balance and indirectly cause acne and other skin ailments.

The glands of internal secretions are assuming more and more importance in dermatology and attention is now being especially directed to the milder forms of hypo- and hyperactivities of these glands. Any undue excitability, long continued, affecting the sex glands will predispose towards various skin ailments. Many a girl who is engaged to be married is afflicted with an obstinate pustular acne, the underlying cause of which is prolonged ungratified sexual excitement. Perhaps every evening is spent with her lover in the back parlor with the lights turned down. Her Bartholinian glands work overtime while being fondled in the lap of an amorous fiance.

Personally, I am convinced that the sexual problem is an important one in every acne case. Moreover, it is likely that masturbation has a pernicious effect on the male and female sex glands or gonads, causing infiltration and chronic ovaritis in girls and prostatic inflammation in young men. The gonads produce an internal secretion which exerts a vast influence upon the body tissues. Undue sexual excitement is injurious to the hormone-producing functions of the sex glands.

As the literature on the ductless glands is so enormous it is unnecessary to more than mention the interrelation existing between the gonads and other glands of internal secretion. The disturbance of the hormone balance in thyroid perversion is of particular importance in dermatology. Of special importance is the antagonistic or synergistic action of the secretions of the adrenal and pituitary glands. Sexual abuse creates a sort of vicious circle between the reproductive organs and the thyroid, thymus, pituitary and adrenal glands.

The study of autoerotism may jar our ideal of feminine purity, and a strong instinct of repugnance may impel us to gloss over this section, yet in my opinion it is such an important factor in the causation of acne that we cannot afford to ignore it. Masturbation is at least a predisposing cause of acne. The great physiologic activity manifest in the sebaceous glands during adolescence is easily perverted to the pathologic. Some deny that this is a factor in the causation, yet any physician who studies a large number of young people who have acne will be convinced that it is not uncommon. It requires tact to obtain information on the subject.

The injurious effects of masturbation as seen in acne patients are lassitude, languidness and inability to look people straight in the eye. They have dark rings around the eyes, depression and headache. Young women may have dysmenorrhea, leucorrhea, nycturia, bladder irritation, menorrhagia, and backache. On examination they not uncommonly show a well marked vulvar hypertrophy, an enlarged clitoris, a wide meatus, reddened and gaping urethral glands and pruritus. A noted author once said, "It may be assumed that girls are not so different from boys when one comes to know them. They are just as devilish and far more secretive. Many of them are furious masturbators and the sphinx is not more silent." Another writer says, "Do not let delicacy keep you from asking pertinent questions of your female patients." Children of neurotic and otherwise tainted parents are likely to fall victims to various sexual irregularities. Moreover, a large percentage of such children are afflicted with acne of a severe and protracted type.

The chief symptoms of interest in skin ailments are seen in benign myxedema and the mild Basedow symptom-complex. Disordered gonad function with the important interrelation existing between the sympathetic system and the other endocrine glands is of especial interest. Among some of the ailments present in such conditions are menstrual acne and hives. Constipation and indigestion are invariably present in all the cases associated with acne. Neuroses are frequent. Metabolism is faulty. The menses are irregular, scanty or profuse. There is often a profuse yellowish, irritating leucorrhea. Many girls with acne are slightly obese and complain of amenorrhea. Chlorosis with its accompanying constipation and toxemia is common. In every case of obstinate indurated acne observation will usually disclose symptoms of mild, chronic derangement of hormone action. Inquiry will also frequently disclose the presence of some gynecologic disorder that requires treatment. An adherent inflamed clitoris may demand attention. A boy may have a phimosis that urgently needs correction. As an infected tonsil is presumed by some to be a factor in the causation of thyroid insufficiency or excess, is it not plausible that a pustular acne may be the cause of some disturbance in the hormone balance? Again, may it not be possible that disturbances of the hormone of the corpus luteum, the gonads or the thyroid may be the direct or indirect cause of the acne? At present these questions have not been fully decided, but day by day we are learning more about the subject. In any event we have found that the tentative use of organic extracts is often startlingly effective in many obstinate cases of acne. We cannot give a scientific reason, yet we know that they produce results even if used empirically.

Nothing can be more personal, more literally and strictly vital, than bodily health. It is the first and the perpetual condition of success. "Pimply faced" young women seldom find favor in the eyes of men. They are repulsive. The development of an acne has barred many a nice girl from a good matrimonial alliance. A boy with a disfiguring acne will miss the best companionship; he will be shut out of employment; he will have his feelings hurt by ill-bred comments in school and elsewhere. Patients have a shrinking horror of acne because of the fact that it is exhibited chiefly over the face, neck and shoulders. It always attracts attention to the victim and creates a disagreeable impression. It is one of the most annoying and conspicuous of all bodily ailments.

The acne patient has an unwholesome aspect. He is shy, wretched and sensitive. He is disposed to imagine that everyone thinks his disease is due to syphilis. Individuals who have been affected with acne often endure indelible, disfiguring scars. This tendency of the disease to produce scarring and pigmentation should always be explained to a patient at the outset. The development of acne should always put one's self on guard; it is a symptom of some structural defect or abuse and it requires immediate correction. In the words of Munger, "The disease minimizes a young man or a young woman; it is a subtraction, a derogation, a maiming. It puts one below the average, makes one fractional, not a full counter in the game of life."

A large preponderance of the cases of acne occur in young women. Every woman has an ardent desire to be beautiful, yet she is frequently unwilling to make any sacrifice to overcome defective bodily functions that cause a bad complexion. Women are so inconsistent. They will not take exercise. They try to produce a clear skin by using cosmetics, yet their bowels are constipated and the intestines clogged with rotting waste. If women would try to enhance their beauty by exercising, bathing, dieting and sleeping out of doors, they would achieve results worth while. As Cunningham says, "Instead of right living, fickle women go to a 'beauty doctor' who sells them high priced enamels, bleaches and rouges. These preparations are blissfully applied. Women seldom stop to reflect that arsenic, mercury and lead enter into the composition of many cosmetics, and that they often ruin the skin and cause systemic poisoning."

I might mention here that, in many of these old-standing acne cases, especially among sexual neurasthenics, the odor of perspiration is extremely offensive. Many young women who have acne are tormented by an assailing odor about the genitals, the feet and the axillary spaces. The liberal use of a perfumed powder of carbonate of magnesia and salicylic acid locally will render the skin sweet and fragrant.

Treatment. The treatment of acne must be persistent. A few useful hints may be of help. After having obtained a fairly complete case history new patients should be given general directions with regard to diet, exercise, etc. It is best, however, to secure this history at several successive calls instead of attempting to do so on the first visit. After a certain degree of confidence has been established, inquiry may be carried further, especially as regards sexual disturbances and their effect on the internal secretions and indirectly on the acne. Full information can usually be obtained at various interviews because treatment has to be extended usually over a period of several months. To be successful we must depend chiefly upon office treatments, altho the patient must also carry out part of the treatment at home.

In the treatment of acne, as in other diseases, we must have patients avoid whatever tends to lessen vitality. Tobacco is injurious. The youth with a loathsome acne is often one who immoderately smokes cigarettes. His only limit, ordinarily, is that imposed by satiety. Tobacco is a debilitant; it tends to induce indigestion, nervousness, and insomnia. Alcohol also undermines the health of many college men. It seriously interferes with any treatment of acne. Pure air is essential. Tell patients to work in it if possible, sleep in it without fail. Avoid sitting in a room where there are many men smoking. Always ventilate the room or office in which you spend the greater part of your time.

Lack of sleep retards recovery. Munger says, "The girl who dances all night is robbing herself of her richest treasure. Sleep renews vitality; it is akin to creation; it is not to be tampered with or taken fitfully." Acne patients should sleep nine hours. A nap before dinner in the evening is of the greatest benefit. Nervous, overworked school girls and saleswomen require a short period of rest after lunch with complete physical and mental relaxation. During the menstrual period the midday rest is especially necessary.

A sound digestion is a fundamental element in vitality. All overfed subjects of acne are benefited to a high degree by reducing the quantity of food ingested, especially meats and sweetstuffs. They should eat fruits, vegetables and fresh fish. Candy, griddle cakes and syrup, pastry and fried foods must be prohibited. Eat slowly. Hurry and anxiety are foes to digestion. As constipation is nearly always present we must administer blue mass on two or three successive nights, followed by morning doses of Epsom salts or effervescent phosphate of soda in hot or cold water with lemon juice. After this preliminary treatment the bowels may be kept regular by giving cascara or agar. Hot morning drinks should also be advised, followed by grape fruit or oranges.

Daily exercise in the open air is necessary to stimulate sluggish glandular systems into proper functional activity. Golf, tennis, rowing, and horse-back riding are all of immense value to the adolescent who is affected with acne. The daily tepid bath is a most important part of the treatment in every case. It should be followed by brisk friction with a coarse towel. The teeth should be attended to regularly. Pyorrhea alveolaris is frequently associated with acne and must be thoroly treated by a good dentist. Likewise the tonsils must be inspected and infection from this source avoided. Nasal obstructions and sinus disease must be corrected. Nearly all acne patients may be benefited by taking an iron pill containing a small amount of arsenic. For years I have employed Upjohn's hematic tonic pill with the greatest satisfaction, and in addition, but in a separate pill, I find that ergot is a most excellent adjuvant. The ergot acts on the involuntary muscles which control sebaceous activity. Always treat any existing seborrhea.

After getting a full history treatment should be started with the view of correcting any sexual disorder or disease of ductless glands. The specific treatment is organotherapy. Naturally clinical reports of success should be received with great reserve. Yet from my own personal experience I am convinced that organotherapy is the greatest single advance in the treatment of skin diseases that we have seen during the last decade. The success of organic extracts such as thyroid and corpus luteum is often spectacular. Corpus luteum (Hinson) may be employed in many menstrual disturbances accompanied by acne, especially in functional amenorrhea and dysmenorrhea of ovarian origin. It is especially valuable in those young women who are slightly obese and anemic and whose menstruation is scanty. Corpus luteum appears to be especially beneficial where the perspiration is offensive, in bladder irritation, and in many of the psychoneurotic manifestations. The average dosage is five grains three times a day. The other organic extracts, of which thyroid is a brilliant example, may be employed as indicated in the foregoing paragraphs. Always watch for any overaction when prescribing thyroid. It is sometimes necessary to keep patients in the hospital during thyroid treatment.

The keynote of success in the *local treatment* of acne consists in keeping open the mouths of the follicles. Bacteria do not thrive unless the ducts are occluded. Cosmetics irritate and close the follicles. Pus organisms rapidly develop in the retained secretions. Treat every case of pustular acne with preliminary hot applications, followed by incision and drainage. The best way to do this is to have the patient stand over a sink and apply wet boric pads to the face just as a barber applys hot wet towels to the face of his customer. After thoroly soaking the skin, evacuate the contents of all the pustules, using a cataract knife or cambric needle. Express all plugs, then with a hard wood toothpick, lightly tipped with cotton, touch the floor of each lesion with a solution of equal parts of iodine, phenol, and camphor or chloral. Next promote bleeding by further hot applications of boric acid solution. After drying the face apply an ointment. The U. S. sulphur is our best remedy for non-pustular, the ammoniated mercury ointment for pustular acne.

Bear in mind that all sluggish skins should be first stimulated with a 5 per cent. salicylic peeling paste until a slight dermatitis is produced. This is extremely valuable in promoting drainage, as the outer skin is shelled off and with it many of the comedoes. The aim is to obtain a moderate reaction with a little scaling. Follow in a few hours with a soothing boric lotion or cold cream.

Generally it is unwise to use too many local remedies in acne. Learn to apply a single method of recognized value and skilfully adapt it to the changing conditions of the disease. If I had to limit my treatment, I would require but four local remedies. They are sulphur, boracic acid, mercury and salicylic acid.

Never apply sulphur and mercury at the same time, because a chemical change occurs whereby the skin is blackened and comedoes are increased in number. There is one exception, however, to this rule. The red oxid of mercury is the one and only form of mercury which may be combined with sulphur without forming the black sulphide and blackening the skin. (O. L. Levin).

When the skin is very greasy a 1 per cent. solution of iodine in benzine will be found remarkably efficacious. It should precede the application of other remedies. Hand sapolio is a most excellent soap to use once a week in protracted, sluggish cases of acne. Always remember that distinct improvement usually results by alternately stimulating and soothing the diseased portion of the skin.

Nearly all the old text-books recommend "lotio alba." In my experience I have found this an overestimated remedy. Boric acid lotion followed by sulphur or mercury ointment is more effective and less expensive. Bear in mind that success in the treatment of acne depends upon attacking the malady in several ways at the same time. Remember that a patient with acne is not an invalid. What he needs, as Skillern says, in nine cases out of ten, is correction of faulty habits. Acne is seldom seen in sailors or others who lead an active outdoor life.

Remember that you will always be hampered in local treatment unless the patient agrees to take a daily bath. The skin sweats from one to three pints daily, almost as much as the output of the kidneys and more than the lungs. In obstinate cases of acne always apply ointments with considerable friction morning and night. Ointments may be preserved from becoming rancid by adding ½ per cent. of formalin to each jar compounded. Any thin oil base may be stiffened with simple cerate and rose ointment until the right consistency is secured.

Patients are grateful to a doctor who prescribes a local remedy that is agreeable. Druggists all know that the perfume is the very soul of a cream; it is what sells it. Don't try to get along with a cheap perfume, if your patients can afford to pay for a good one. Face creams and ointments demand better perfumes than simple body ointments. It is also well to remember, as suggested by H. C. Bradford, that artificial and synthetic oils "stand up" better than the natural productions. Alkalies destroy the odor of natural oils and soon decompose them. A small amount of natural oil judiciously mixed with synthetic perfumes will, if wisely selected, serve well. Do not skimp in the amount of perfume used, since few persons object to an excess of pleasing perfume in a product. Employ synthetic oils when you can because they are much cheaper than the natural oils; they are also more uniform, stronger and more permanent. Terpineol, (Fritzsche's) for example, is a synthetic oil of powerful and pleasing odor and is inexpensive. It is best combined with concentrated natural oil of rose sufficient to yield a pleasing odor.

In conjunction with the above measures a properly prepared autogenous vaccine or a stock vaccine may be employed and often aids in hastening a cure. In my experience, however, vaccines are not essential. A cure may be effected without them.

THE CLINICAL INTERPRETATION OF LABYRINTHINE PHENOMENA IN THE PRESENCE OF SUPPURATIVE INFLAMMATION OF THE MIDDLE EAR.*

By Otto M. Rott, M. D.
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In any case of suppurative inflammation of the middle ear, the possibility of a labyrinthine involvement must always be kept in mind, not only because of the added seriousness which such a complication carries with it, but also because of the influence which such a complication has on the method of procedure in the treatment of the middle ear and mastoid. Whereas, in the absence of any labyrinthine involvement, it might be the wisest course to operate on the mastoid, on the other hand, if the labyrinth is affected, a mastoid operation may be absolutely contraindicated. The phrase "may be" is used advisedly, because it is not always contraindicated, and it is just this fact, rendering essential an intelligent recognition of the particular type of labyrinthine involvement, which gives my excuse for occupying a few moments of your time with a discussion of the interpretation of labyrinthine symptoms, secondary to a suppurative condition in the middle ear.

The statement was made that, in some cases of labyrinthitis, it may be unwise to open the mastoid and that in other cases the mastoid operation may be indicated. How then shall we proceed to study our cases so as to place them in their proper classification and give our patients the very best chance for recovery? To my mind the easiest and quickest way to reach common ground is by the consideration of certain hypothetical cases.

You are all well acquainted with the symptoms and signs indicative of labyrinthine involvement, namely, deafness, nystagmus, vertigo, nausea and vomiting; so it remains for us to study these symptoms in order to obtain therefrom information as to just what type of involvement we are dealing with. If, for instance, during the course of a suppurative inflammation of the middle ear, the patient should complain of vertigo, nausea and vomiting, and an examination of the eyes revealed the presence of a nystagmus, we would know that the labyrinth was affected, but just to what degree, and what influence the type would have on our decision for or against operative measures on the mastoid, we would be unable to determine without a further analysis of these symptoms and signs. The importance of this analysis becomes evident when I state that, if one type is present, the mastoid operation is contraindicated, but if the other type is present, prompt opening of the mastoid is the best possible treatment.

If an analysis of these labyrinthine symptoms shows that the deafness is not absolute (and this can only be determined by the use of the noise apparatus in the sound ear) and that the nystagmus—that is, the quick component—is directed toward the diseased ear, then the condition present is a paralabyrinthitis; that is, an inflammation of the labyrinthine capsule without the destruction of the membranous labyrinth, and the best treatment is the prompt opening of the mastoid in order to relieve tension and prevent destruction of the labyrinth proper.

If, on the other hand, our examination reveals absolute deafness of the suppurating ear, with the nystagmus toward the well ear, the condition present is one of acute diffuse labyrinthitis, and the best interests of the patient will be served if we refrain from opening the mastoid during the acute stage, unless there are unmistakable evidences of beginning meningeal involvement, as determined by a temperature of over a hundred degrees, headache, photophobia, exaggerated reflexes, a positive Kernig, and positive findings in the cerebrospinal fluid. when it would be necessary not only to open the mastoid, but immediately to follow this by exenteration of the labyrinth, combined with drainage of the dura.

Why, you may ask, should such a conservative attitude be advisable in the presence of an acute diffuse labyrinthitis, unaccompanied by evidences of meningeal involvement? There are two reasons. One is that statistics are at hand to prove that the most dangerous time to open the labyrinth is during the acute process, because by so doing the surgeon would be likely to produce exactly that condition which he hoped to avert, namely, meningitis. The second reason is that, in any acute diffuse inflammation of the labyrinth, we are unable to determine definitely whether the process is suppurative or serous. The practical difference between the two is that, in the suppurative form, all function is abolished and will never return, whereas in the serous type, the function is apparently abolished, but after the acute process has run its course it will be found that some hearing is still present.

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*Read before the Spokane County Medical Society, Spokane, Wash., Nov. 15, 1917.

Since, then, time alone will help us properly to classify these cases, and since at the same time the safest period to operate is after the acute process has run its course, unless, as before mentioned, the evidences of meningeal involvement are present, you can readily appreciate the wisdom of the conservative attitude. You can clearly see, then, that the radical attitude would not only sacrifice some healthy labyrinths but would also unnecessarily endanger the patient's life. Granting, then, the correctness of the indications in these two conditions exhibiting spontaneous evidences of labyrinthine involvement, you can readily appreciate the importance of a proper interpretation of the phenomena, as otherwise a fatality might result where a cure could reasonably have been expected.

One more type of labyrinthine involvement deserves consideration, but this last type differs from the former two in that in this there are no spontaneous phenomena to direct attention to the labyrinth. I refer to the chronic or latent type of diffuse labyrinthitis, a type which can be discovered only by recognizing the possibility of its being present, and forthwith making the necessary labyrinthine tests.

The necessity of determining, in a given case of suppurative otitis media, whether the labyrinth is active or dead, depends upon the fact well established that no mastoid operation should be performed in any case of chronic suppurative otitis media, until the labyrinth has been analyzed as to whether or not it is functionating, because it is in just these unrecognized cases of latent diffuse labyrinthitis, in which a radical mastoid operation has been performed, that the latent suppurative focus in the labyrinth has been aroused into activity, and a suppurative meningitis and death have resulted.

How then should we proceed to test the labyrinth as to its activity? First, by testing the hearing and, secondly, by the vestibular tests. If, with a noise apparatus in the well ear, there is still some hearing present, and the caloric test reveals vestibular activity, it is safe to operate on the mastoid alone. When, however, our tests reveal that the cochlear and vestibular functions are abolished, no mastoid operation alone, should be undertaken. If the mastoid operation is otherwise indicated, and if the labyrinth is non-functionating, thus proving the former presence of an acute diffuse labyrinthitis, the mastoid operation should be immediately followed by a labyrinthine exenteration, as otherwise a meningeal complication might result.

I hope I have succeeded in drawing to your attention the importance of a thoro study of the labyrinth before undertaking any mastoid operation, because too often this important structure is disregarded when deciding for or against a mastoid operation.

In conclusion, I wish merely to repeat (1) that, when spontaneous labyrinthine symptoms are present, the decision concerning the advisability of a mastoid operation rests largely on the question as to whether the type is a paralabyrinthitis or an acute diffuse labyrinthitis and, if the latter, whether there are or are not symptoms of meningeal involvement; (2) before undertaking a mastoid operation in chronic suppurative otitis media, always test the labyrinth to determine whether or not it is functionating. If not functionating, it is safer to follow the mastoid operation immediately by a labyrinthine exenteration rather than to perform the mastoid operation alone.

404 Paulsen Bldg.

WATER. ITS SCIENTIFIC USE IN THE RELIEF AND PREVENTION OF DISEASE.*

By Mary E. J. Donaldson, M. D.
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That normal man is composed largely of water suggests to hydropathics, at least, that the abnormal man is greatly deficient in this very important element, so profuse in nature, as an immense amount of water covers the face of the globe. "On the globe," says Mitchlet, "water prevails, land is the exception." Greek philosophers looked upon bodies of pure, bright and sparkling water as the "mother of life," and sages and Egyptian priests used to kneel upon the banks and streams and adore them as visible images of the Deity.

The Century dictionary assures us that water is the most powerful solvent in the universe, as it dissolves rocks and stones which it meets in its course while falling upon the earth. The solvent power of water plays also a great part in the constant changes which our earth undergoes. The water eats away the soil with which it comes in contact by gently diluting the earthy matter; it penetrates all tissue, depriving the earthly particles of the natural cement which binds them together.

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*Read before the Twenty-fifth Annual Meeting of Idaho State Medical Association, Sandpoint, Ida., June 25-26, 1917.

While traversing the earth by way of river-beds, lakes, basins and subterranean canals, water is forever accomplishing works important and innumerable. Penetrating into the fissures of the hardest and most compact rocks, it succeeds in breaking them by the mechanical force which it develops. Enormous blocks of stone are thus detached from the mountain sides as if a powerful and irresistible lever had raised them for the purpose of precipitating them into the sea or into the valley beneath. Tyndall says, "whether as solids, liquid or gas, water is the most admirable substance in nature."

Since, then, water is of such vast importance in nature, of such inestimable value indeed, is it not both possible and probable that we have often overlooked or undervalued its use in the treatment and prevention of disease? For how many, to the baffled physician's mind, hopeless invalids, have at his suggestion visited some water resort, hot lakes or hot springs for renovation, recuperation and a possible cure. And how surprised and rejoiced is the physician to learn that the efficacy of a few glasses of hot water for a few days or weeks had acted with greater potency than all his medicinal remedies which had covered a period of months or perhaps years.

Since such untold and invaluable results are derived, and often in so short a time, are we not justified in concluding that the waters from these hot springs hold in solution mineral substances which they have dissolved on their way to the surface of the earth, where they burst forth for the good of man; or, in other words, may not these mineral substances while on the way enter into chemical combinations with each other, and thus produce entirely new properties in these highly health-giving waters?

We find all water is a solvent, but hot water possesses the greatest power of solution; hence the great and the good results which invalids have derived from the copious drinking of hot water. We have yet to see a rise of temperature follow a case of accouchement, where the drinking of hot water had been religiously practiced for a few weeks prior to delivery. It has been our practice to give the infant three feedings of hot water to one of milk, thus avoiding both colic and purgatives.

It is today the honest conviction of many learned and eminent men of the medical profession that, if the copious drinking of hot water was daily practiced, fevers of every class and description, together with that hydra-headed monster dyspepsia, would be simply "washed out" of existence. And well may we add to this list rheumatism, neuralgia, gout and all kindred diseases which would be forever banished, afflicting suffering humanity no more, and may God hasten that glad day.

The good Book says in Hosea, iv:6: "My people are destroyed for lack of knowledge." We must, therefore, conclude that this state of ignorance is due largely to the fact that the masses are unwilling or slow to study and investigate the laws of life and health which govern their beings. The wise and conscientious physician has long looked upon the mad rush of humanity after quack doctors, quack books and quack medicines with deep regret. Only quack doctors expect their patients to open their mouths, shut their eyes and swallow a dose, the contents of which they are totally ignorant.

The true physicians, the educated members of the medical profession, stand for advancement and progress in medical science and they are the friends, not the enemies, of the commonwealth, hiding knowledge in dark sayings, mysterious looks and dogmatic airs. The time is here for fair and honest dealing, for frank and open reasoning. With the laity subterfuge will pass muster no longer. And woe to that quack or charlatan who dares to think that "gain is godliness" for from such the righteous man will withdraw himself, leaving him to his unenviable fate. But all hail to that noble and unselfish physician who descends from his lofty heights of investigation, of research and discovery in medical science to give help and aid, to instruct and comfort the suffering sons and daughters of earth, imparting that comforting knowledge which is of more value than gold, silver or precious stones, as all of us consider good health the greatest of earthly blessings.

Members of the medical profession are all cognizant of the fact that the scientific use of water in the treatment of disease is increasing in exact proportion as the intelligence of human thought increases and the intellect develops itself in discovering new service which this all-important agent is rendering to mankind. Let us, then, advocate constantly the abundant use of hot water both inside and outside, and we will find the results thus obtained most gratifying, for peace and purity will follow its use, and rest assured that never was "Tartar fierce or cruel upon the strength of water gruel."

NORTHWEST MEDICINE

The Journal of the State Medical Associations of Oregon, Washington, Idaho and Utah.

Devoted to the Interests of the Medical Profession of the Pacific Northwest.

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FEBRUARY, 1918.

EDITORIAL

THE WAR AND SALVARSAN THERAPY.

There has been much discussion as to the relative value of the different arsenicals designed to replace salvarsan and neosalvarsan and there is a widespread desire on the part of loyal physicians to obtain something as good or better but without the attached stigma "Made in Germany." America has produced arsenobenzol which appears to be as valuable as salvarsan. Canada produces diarsenol which has been recommended but which appears to be toxic at times. Recently the manufacturers of this preparation have put on the market a preparation known as neodiarsenol which is designed to replace neosalvarsan.

According to the Council on Pharmacy of the A. M. A., neodiarsenol is identical with neosalvarsan and this statement in substance is affirmed by the manufacturers, tho they admit that the color is not quite the same. As a matter of fact, it is not identical with the German preparation either in appearance, solubility, odor or freedom from toxicity. It is darker, has a much different odor and dissolves with difficulty. In one instance for which the writer can vouch, a dose of 0.45 gram caused choking, prickling of the extremities and loss of consciousness for three-fourths hour, followed the next day by nausea and a little purging. A genitourinary specialist used it in full doses, 0.9 gram each, sixteen times with two violent reactions, each causing symptoms similar to those listed above and, in addition, severe neuralgic pains and, about twenty minutes after the injection was completed, edema of the tongue, lips, face, feet and hands which were so swollen that they could not be closed. The physician was enthusiastic over the beneficial effects on the lesions, but had two more violent reactions out of four injections and he discontinued its use. He has since verbally reported to the writer a death occurring within eight hours after an injection of 0.9 gram. This was given to a woman by one of his friends and he vouches for all the facts concerning it, but for obvious reasons does not care to give the name of the user. A recent report in the *Journal A. M. A.** confirms the opinions offered above. It is but just to state that all those interviewed by the writer, who have administered neodiarsenol say it was followed by the rapid disappearance of the syphilitic lesions.

The French preparations, arsenobenzol "Billon" and novarseno benzol "Billon," come highly recommended. The writer has used a total of fifty-five ampoules of the latter with happy results. These were all part doses, the largest having been 0.6 gram and it was necessary in most instances to combine two ampoules to get sufficient dosage. The color is perhaps a little lighter than that of neosalvarsan. It is, if anything, more freely soluble than neosalvarsan and the odor of some ampoules is a trifle more pungent. There were no reactions. Because of the stage of syphilis treated, it was impossible to judge of the clinical results. But those who have used it in early syphilis say that it causes rapid disappearance of the lesions and there are excellent reasons for believing it to be therapeutically identical with neosalvarsan and equally free or freer from toxicity.

The reports of the toxicity of the Canadian preparation should bring to the manufacturers a realization of the necessity of standardizing their product. The excellent results obtainable from its use hardly offset the apparent dangers of toxicity and it is hoped that this fault will soon be permanently removed.

The United States Army has called for enormous quantities of these preparations. The transportation situation adds to the difficulty of obtaining, especially the French preparation, which has been issued only in part doses during much of the last year. Either Canada or the United States or both ought soon to produce a reliable product that will be available at all times at a price well within the limit of the purses of all who may have need for it.

MORE PHYSICIANS NEEDED TO WIN THE WAR.

Notwithstanding the response already made by the medical profession to the calls for enlistment in service, a pressing demand is being issued for more enlistments both in the army and navy. According to Lieut. Col. Noble, of the Surgeon

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*Zeisler. The Toxicity of Neodiarsenol. Journal A. M. M., page 2181, Dec. 29, 1917.

General's office, we have now 14,500 doctors in the Medical Reserve Corps, not a sufficient number to care for those already in the service, not mentioning the men who will come into the combatant service as the result of the second draft. It is not only for these services that medical officers are required but for sanitation, hospital camps, cantonments and other departments, where the health and life of the forces are dependent on the medical officers. Col. Noble says, "On the medical profession rests a heavy responsibility for with it rests the subject of medical preparedness." Every physician coming within the requirements of the service as to age and physical fitness should seriously consider his responsibility and not wait for complete mobilization but apply at once for commission in the Medical Reserve Corps of the United States Army.

At the same time comes an equally urgent call from the Navy. Surgeon General of the Navy, W. C. Braisted, writes that the Navy is still urgently in need of medical officers to answer the constantly increasing calls for sea and shore duty. Candidates found qualified will be assigned to immediate active duty if so desired. It is urged that a campaign of these facts be carried on among the medical profession. With such urgent appeals from both army and navy every patriotic physician should ask himself whether duty calls him to either branch of the service.

BINOCULARS FOR THE NAVY.

The controller of the navy has sent out a call to the people of the land for binoculars, spy glasses and telescopes. It has been impossible to manufacture these articles in quantities needed for our ships. Heretofore the United States has relied almost entirely upon foreign countries for its supply. These channels being closed and no stock being on hand, it has become necessary to appeal to the patriotism of the individual to furnish "eyes for the navy." Altho over 3,000 glasses of various kinds were received following various appeals, the navy must have thousands more. It is desired to bring this appeal to the attention of all classes of citizens, asking them to loan such glasses to the government.

All articles should be tagged with the name and address of the owner and forwarded to the Hon. Franklin D. Roosevelt, assistant secretary, U. S. Navy, care Naval Observatory, Washington, D. C. At the end of the war every effort will be made to return these articles to the original owners. Since the law does not permit the government to accept services or material without payment, one dollar will be paid for each article accepted which will constitute a rental or purchase price. Here is an opportunity to help the government by the aid of your old spy-glass or telescope.

REPORT LOCAL ANESTHETIC ACCIDENTS.

The Therapeutic Research Committee of the Council of Pharmacy and Chemistry of the American Medical Association is endeavoring to obtain reports of value concerning accidents of local anesthetics. It is well known that reports of such accidents are rarely published for fear of unmerited censorship of the anesthetist. In order, however, to secure data of any value, physicians must offer full and conscientious reports of such accidents. The details desired and the means of obtaining such reports are given in a letter on another page from the Research Committee. We commend this letter to our readers and trust that all will aid in securing this valuable information.

MEDICAL NOTES

More Army Enlistments. Since our last issue the following names have been received of enlistments in the Medical Officers Reserve Corps:

WASHINGTON.

Allen, R. A., Tacoma
Axtell, W. H., Bellingham
Curren, Thomas, Tacoma
Hill, B. B., Colfax
Lemmon, F. J., North Yakima
Mitchell, W. B., Sumner
Monro, W. A., Tacoma
Morse, R. A., Tacoma
Pope, E. F., Spokane
Siebert, A. W., Wenatchee
Thompson, H. B., Seattle

IDAHO.

Aspray, Joseph, Moscow

OREGON.

Hospital Unit Ready for Service. The Base Hospital Unit, 46, organized by the University of Oregon, is ready for active duty. Major R. C. Yenney has received orders to store the equipment comprising the necessary furnishings, apparatus, and supplies for a 500 bed hospital. The unit was filled to war strength when recruiting was stopped in July. Major Yenney expresses his belief that action will be called for soon.

Portland the Healthiest City. The health department of Portland furnishes proof that this city is the healthiest in the country. The government reports of 1916 show that no city of its size had so few deaths among children under one year of age, while its total mortality is a little over 8 per 1,000. For the week ending Nov. 11, 1917, there was not a death under one year of age.

Compulsory Medical Inspection. The school board of Albany has adopted compulsory medical inspection for school children. Dr. G. E. Riggs was appointed health inspector, whose duty it is to go to the schools and inspect each child. There will be no compulsion in the choice of physicians who will treat the abnormalities and diseases disclosed.

Enlarged Hospital. The Bend Hospital has been taken over by the Catholic Sisters of St. Joseph. The building is to be remodeled to provide a capacity for 28 beds. The institution will be for the service of the general public.

An Expensive Pair of Ducks. Dr. M. N. Leach, of Corvallis, was under the painful necessity of paying $28 for two ducks which flew at him on his way home and which he felt obliged to shoot in self-defence. The heartless game warden, however, insisted in abstracting this sum from the sporting doctor.

WASHINGTON.

The Winter Meeting of the Examining Board. The State Medical Examining Board held its winter session at Spokane last month. There were 30 applicants for licenses, four of them being in uniform, one from the Canadian army and two from the United States army. Three Japanese from Seattle were among the number, all of them graduates of Japanese medical institutions. The number included one woman osteopath. Dr. D. M. Stone, of Seattle, was elected president of the board; Dr. A. J. Nelson, of Seattle, vice-president; Dr. C. N. Suttner, of Spokane, secretary, and Dr. R. A. Gove, of Tacoma, treasurer.

Venereal Diseases Must Be Reported. At a meeting of the State Board of Health last month orders were issued directing all public health officers to examine all persons suspected of having venereal diseases and to quarantine the same. All druggists selling perscriptions for such diseases and physicians treating them are required to report the same to the Board of Health. It also provides the persons are to be released from quarantine only by the State Board of Health officials.

Health Certificates for the Handlers of Food. Authorities of Tacoma have undertaken the task of making a physical examination of all persons handling food and drink, as well as those connected with barber shops and hotels. Soldiers will be allowed to patronize only places which have such health certificates. The physicians of the city have agreed to act in relays for making the necessary examinations.

Digitalis for Government Use. The first shipment of digitalis from Washington was a 600 pound lot sent to Washington, D. C., from the Department of Pharmacy, of the University of Washington. At the opening of the war the U. S. government had almost none. As it grows abundantly in Washington and Oregon the Department of Pharmacy has been active in its collection.

New Outbreak of Rabies. It is reported that rabies has appeared in Okanogan and Grant counties. Some persons have appeared for Pasteur treatment in consequence. It is requested that persons finding dogs suspected of rabies should send their heads to the State Board of Health in Seattle for examination.

Addition to Be Built to Hospital. The Deaconess Hospital of Wenatchee will build an addition to accommodate 40 beds, at a cost of $30,000. It will be two stories in height, constructed of brick and hollow tile. The necessity for the addition has been felt for a long time, patients being turned away for lack of room.

Hospital to Be Enlarged. More than $50,000 has been pledged for the new wing of the Deaconess Hospital at Spokane. This sum has been raised among individuals and different Methodist Churches.

Hospital Burns. The hospital of Dr. W. H. Winkle, at Kittitas, was burned last month, the operating room, laboratory and equipment being destroyed.

Hospital Corps for Service. The hospital Unit of Spokane, which has been assembled by Major S. E. Lambert last month departed for Ft. McPherson, Ga. It expects soon to be called for service in France.

New Epidemiologist. Dr. J. E. Henry, recently city health officer of Tacoma, has been appointed epidemiologist to the State Board of Health, with offices in Seattle. He will devote his entire time to public health work, having charge of the entire state.

Hospital Association Must Improve. Numerous complaints have been made against the Washington Hospital Association for failure to carry out its contracts satisfactorily. In connection with recent complaints of employees of one large industry, the State Medical Aid Board has ordered reforms in the association's management before Feb. 2 or its contract would be cancelled.

Physician Held as pro-German. Dr. Louis Dechmann, who has for some time conducted a sanitarium at Lake Crescent, has been apprehended by government officials and held for investigation on account of pro-German sentiments. He has been under surveillance by the Department of Justice ever since war was declared with Germany.

Dr. Kenelm Winslow, review editor of NORTHWEST MEDICINE, who has just completed a service of tuberculosis examinations at Camp Lewis, has a captain's commission in the M. O. R. C.

Tour of the Orient. Dr. J. H. Lyons, of Seattle, has gone with his family on a three months' tour of the Orient. He will visit China and Japan.

Health Officer Resigns. Dr. W. A. Wimberly has resigned as city health officer of Ellensburg. His successor is Dr. M. J. Morris.

New City Physician. Dr. W. J. Howells has been appointed City Physician of Spokane to succeed Dr. E. L. Ingersol.

Dr. W. S. Bardwell, of Othello, has gone east for several months of postgraduate study.

OBITUARIES.

Dr. Ivan Ellsworth Bellinger, of Portland, Ore., died at the Base Hospital, Ft. Riley, Kas., Jan. 17, 1918, of bronchopneumonia. He was born in Portland, March 26, 1887. After attending the Portland public school and two years of pre-medic course, he graduated from the medical department of the Willamette University in 1913. After one year as house physician at Salem Hospital he practiced three years at Sweet Home. He was commissioned First Lieutenant in the M. O. R. C. at Ft. Riley, Dec. 12, 1917.

Dr. Eugene Story died at Olympia, Wash., Jan. 6 after a brief illness, at the age of 62 years. He was born at Waterloo, N. Y. He located at Olympia six years ago after having practiced a number of years at Montesano.

Dr. B. H. Yount died at Wilbur, Wash., Jan. 19, 1918. He was a pioneer physician of the Big Bend country, where he practiced for many years and had a large circle of acquaintances.

CORRESPONDENCE

REPORT OF ACCIDENTS FROM LOCAL ANESTHETICS.

To the Editor:

The Committee on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association has undertaken a study of the accidents following the clinical use of local anesthetics, especially those following ordinary therapeutic doses. It is hoped that this study may lead to a better understanding of the cause of such accidents, and consequently to methods of avoiding them, or at least of treating them successfully when they occur.

It is becoming apparent that several of the local anesthetics, if not all of those in general use, are prone to cause death or symptoms of severe poisoning in a small percentage of those cases in which the dose used has been hitherto considered quite safe. The infrequent occurrence of these accidents and their production by relatively small doses point to a peculiar hypersensitiveness on the part of those in whom the accidents occur. The data necessary for a study of these accidents are at present wholly insufficient, especially since the symptoms described in most of the cases are quite different from those commonly observed in animals even after the administration of toxic, but not fatal doses.

Such accidents are seldom reported in detail in the medical literature, partly because physicians and dentists fear that they may be held to blame should they report them, partly, perhaps, because they have failed to appreciate the importance of the matter from the standpoint of the protection of the public. It is evident that a broader view should prevail, and that physicians should be informed regarding the conditions under which such accidents occur in order that they may be avoided. It is also evident that the best protection against such unjust accusations, and the best means of preventing such accidents consist in the publication of careful detailed records when they have occurred, with the attending circumstances. These should be reported in the medical or dental journals when possible; but when, for any reason, this seems undesirable, a confidential report may be filed with Dr. R. A. Hatcher, 414 East Twenty-sixth Street, New York City, who has been appointed by the committee to collect this information.

If desired, such reports will be considered strictly confidential, so far as the name of the patient and that of the medical attendant are concerned and such information will be used solely as a means of studying the problem of toxicity of this class of agents, unless permission is given to use the name. All available facts, both public and private, should be included in these reports, but the following data are especially to be desired in those cases in which more detailed reports cannot be made:

The age, sex, and general history of the patient should be given in as great detail as possible. The state of the nervous system appears to be of especial importance. The dosage employed should be stated as accurately as possible; also the concentration of the solution employed, the site of the injection (whether intramuscular, perineural or strictly subcutaneous), and whether applied to the mouth, nose, or other part of the body. The possibility of an injection having been made into a small vein during intramuscular injection or into the gums should be considered. In such cases the action begins almost at once, that is, within a few seconds.

The previous condition of the heart and respiration should be reported if possible; and, of course, the effects of the drug on the heart and respiration, as well as the duration of the symptoms, should be recorded. If antidotes are employed, their nature and dosage should be stated, together with the character and time of appearance of the effects induced by the antidotes. It is important to state whether antidotes were administered orally, or by subcutaneous, intramuscular or intravenous injection, and the concentration in which such antidotes were used.

While such detailed information, together with any other available data, are desirable, it is not to be understood that the inability to supply such details should prevent the publication of reports of poisoning, however meager the data, so long as accuracy is observed.

The committee urges on all anesthetists, surgeons, physicians and dentists the making of such reports as a public duty. It asks that they read this appeal with especial attention of the character of observations desired.

TORALD SOLLMANN, Chairman.
R. A. HATCHER, Special Referee.
Therapeutic Research Committee of the Council on Pharmacy and Chemistry of the American Medical Association.

REPORTS OF SOCIETY MEETINGS

KING COUNTY MEDICAL SOCIETY.

Pres., H. E. Allen, M. D.; Sec., L. H. Maxson, M. D.

The first meeting of the year was called to order at the Metropolitan Lumbermen's Club, Seattle, Wash., Jan. 7, 1918, at 8:25 p. m. There were about 80 members present.

Dr. J. Tate Mason presented a case of subluxation of the cervical vertebrae, confirmed by the x-ray; a baby with intussusception, where Tubbin's method of preventing recurrence by stitching the ilium to the colon was described; a case of hour-glass stomach due to the contraction of a large ulcer and adhesions; a case of echinococcus cyst of the liver, in which careful excision of the cyst had been done with improvement up to the present time.

Dr. W. S. Griswold exhibited microscopic slides showing the heads of the young worms and the hooklets.

The cases of hour-glass stomach and hydatid cyst were discussed by Drs. C. S. Leede and H. G. Lazelle.

The secretary read the treasurer's report for 1917 and that of the certified public accountant, showing the books and funds to be correct, also report of the auditing committee, all of which were adopted.

It was voted to have the annual banquet, the details being left in the hands of the committee.

Dr. M. N. Garhart was elected to membership.

A resolution of sympathy was voted to Capt. W. K. Turner, the first member to be wounded in the Great War.

Dr. Geo. M. Horton, president of the State Association, spoke briefly of the plans for the coming meeting.

A vote of confidence and approval for the work accomplished during his term of office was given Dr. McBride, Commissioner of Health.

Dr. W. R. Jones asked members to be on the lookout for two girls who had escaped from the City Hospital and to be careful about giving health certificates.

Dr. A. O. Loe, the retiring president, gave his annual address.

The following officers were elected for the ensuing year: H. E. Allen, president; L. H. Maxson, secretary-treasurer; W. C. Lippincott, vice-president; D. H. Houston, R. D. Forbes, trustees; D. H. Palmer, H. D. Dudley, H. G. Lazelle, delegates to State Association.

PIERCE COUNTY MEDICAL SOCIETY.

Pres., S. W. Mowers, M. D.; Sec., R. A. Gove, M. D.

The regular meeting of the Pierce County Medical Society was held at the library rooms, Tacoma, Wash., Tuesday evening, Jan. 8, 1918, with President Mowers in the chair. Thirty-six members were present.

The president referred to the fact that many of our most active members have entered military service and hoped all would give their best efforts to make the society useful during the coming year.

Dr. J. Arthur Keho was elected to membership and the application of Dr. W. W. Matson was presented.

A report on the death of Dr. Margaret Carsley Balabanoff was presented by the committee appointed at the last meeting and adopted by the society.

Dr. Hunter presented a case of strangulated inguinal hernia, on which he operated successfully. He also made a report of the Clinical Congress at Chicago in October. Entirely new work has been done in lung surgery. Paraffin treatment on burns and granulating surfaces was discussed. The Carrel-Dakin solution is difficult to handle, very unstable and requires a very exacting technic.

Dr. C. W. Hall reported a case of extensive burn which he treated in 1901 with carron oil. He afterwards used wax paper and goose grease, and found it very efficacious.

Col. MaGruder, of Camp Lewis, made a very interesting talk in reference to the examinations of persons working in restaurants, ice cream parlors, bakeries, barber shops, etc. The health officer is not able to attend to all of this work and he asked for volunteers to assist him. Dr. Monroe stated this work is very important and hoped some of the physicians would assist.

The subject was discussed by Drs. Penny, James, Mowers, W. B. McNerthney, Robertson, J. B. McNerthney, Gulick, Kinnear, and Yocom. Volunteers offered their service.

The second regular meeting of the society was held Jan. 22, 1918, being called to order by the president. Forty-three members were present. Minutes of last meeting were read and approved.

The following report was adopted:

Whereas, it is with the deepest sorrow that we record the death of a former esteemed member of the Pierce County Medical Society, Captain A. de Y. Greene, and

Whereas, we remember him as our efficient Health Officer, ever thoughtful of the city's and individual's welfare, and

Whereas, we remember him as Mayor of his home city, displaying marked ability and ever aiding charity, and

Whereas, we remember him as Captain in the United States Medical Reserve Corps, serving his country in her hour of distress, and

Whereas, we hear his last words: "My hour has come, wrap my body in the Stars and Stripes, I fear not to die in the service of my country."

Therefore, be it resolved, that we, the members of the Pierce County Medical Society, feel that we have lost a most worthy member.

Be it resolved that we extend to his family our sympathy.

Be it further resolved that these resolutions be spread on the minutes of the society, and that a copy be sent the family.

Committee (Signed)
J. B. McNerthney.
James A. LaGasa,

General Diagnosis. Dr. J. M. Blackford, of Seattle, addressed the society on this subject. A careful history of the patient's disease is of the utmostt importance in determining the nature of his complaint. He discussed goiter from the standpoint of seven years experience with the Mayo brothers. Two per cent. are malignant. Pressure on the vagus will often relieve the most alarming and distressing attack of tachycardia. Peptic ulcer in young women is a rare disease, altho many cases of obscure stomach trouble are so considered. The x-ray is a very valuable means of diagnosis. Mitral stenosis is the most commonly overlooked heart lesion. Many cases of carcinoma of the rectum have been found on investigation to have been operated on a short time previously for hemorrhoids. Many cases have been operated on for gallstones which investigation afterwards demonstrated were cases of kidney stone. Autopsies should be made whenever possible to determine whether diagnosis has been correct.

Dr. Gulick said physicians should conduct themselves so that the public may learn there are not as many differences in opinion among them as they are often led to believe. Dr. Read said the success of the doctor often comes from the treatment of the patient instead of the disease. Dr. Quevli said his experience at Camp Lewis has shown him that serious heart disease is often overlooked but not active tuberculosis. He said cigarettes often seem to be of great value among the soldiers in tachycardia. Dr. Gove referred to his knowledge of the Mayo brothers when he was associated with them and their father in a friendly way thirty years ago. Dr. Hicks said we do not consult sufficiently with each other. We should find out the capabilities of our fellow practitioners, and enlist their services whenever we can. Dr. Blackford said that most people who embrace Christian science are neurasthenics. Many of them would have stayed with the family doctor if he had been more patient and assisted them oftener by explaining more fully their actual physical condition.

Dr. J. R. Brown, of the State Board of Health, stated it had been determined to include syphilis, gonorrhea, and chancroidal disease among reportable diseases. This ruling will go into effect in ninety days. It is expected a laboratory will be established, so that diagnoses may be confirmed.

BOOK REVIEWS

Edited by Kenelm Winslow, M. D.

History of Medicine. Suggestions for study and Bibliographic Data. By Fielding H. Garrison, A. B., M. D., Principal Assistant Librarian, Surgeon General's Office, Washington, D. C. Second edition revised and enlarged. Octavo of 905 pages with many portraits. W. B. Saunders Company, Philadelphia and London, 1917. Cloth, $6.50, net. Half Morocco, $8.00, net.

Anyone interested in the history of medicine will greet with pleasure the second edition of this fascinating publication. The author is connected with the greatest of medical libraries, at the Surgeon General's office at Washington, and has had incomparable facilities for gathering material for this great work. It is not alone a collection of biographies but the history of medical development. As quoted from Singer, of Oxford, "The history of medicine is the history of ideas, and biography is only of value in so far as it bears on ideas." The author begins with the earliest forms of medical knowledge, as described in ancient and primitive medicine, thence tracing the development of the art thru Greek and Roman medicine down to the medieval period, where real medical ideas began to be developed. The revival of learning during the Renaissance and Reformation produced medical men of the greatest historical interest, as is known to all students of medical history. The chapter on the seventeenth century is perhaps most replete with names inseparably connected with the human body. This is described as the age of individual scientific endeavor. The history of that century includes such well known immortal names as Highmore, Glisson, Bartholinus, Wharton, Willis, Cowper, Malphigi, Pacchioni, Steno, Peyer and a host of others, the mention of each of whom at once suggests a definite portion of the human anatomy. The chapters on the modern period are full of matters of great interest to every physician, including not only the lives of great men but the deeds which they accomplished. The work can not be too highly commended to every physician.

Smith.

Poliomyelitis in All Its Aspects. By John Ruhrah, M. D., Professor of Pediatrics in the University of Maryland Medical School and College of Physicians and Surgeons, etc., and Erwin E. Mayer, M. D., First Lieutenant in the Medical Officers Reserve Corps, U. S. Army. 297 Pp. Illustrated with 118 engravings and two plates. Price, $3.25. Lea & Febiger, Philadelphia and New York, 1917.

In this volume are collected the facts concerning poliomyelitis as far as they are known at the present time. Hitherto no adequate account of the disease has been presented in one volume. As to transmission the authors state it is generally considered by health authorities and most writers that the disease is conveyed from person to person, as demonstrated by finding the virus in the secretions and the mucous membranes of the nose and throat, by application of which to the nasal mucosa of monkeys the disease may be produced. All the different features of treatment are discussed in detail. As regards the serum treatment the New York Health Department states it was used in a large number of cases with some beneficial results but without sufficient evidence of cure to warrant its adoption as a specific. The authors advise its use if a definite diagnosis has been made and the serum is at hand but failure to do so would not be a serious omission in the treatment. As to prophylaxis 10 per cent. argyrol solution is recommended, five drops in each nostril three or four times daily. Also hexamethylenamin is considered of value in children who have been definitely exposed to the disease. This is to be continued one or two weeks after exposure. No publication on the subject of poliomyelitis contains as much information as this book. SMITH.

Diseases of the Skin. Their Pathology and Treatment. By Milton B. Hartzell, A. M., M. D., LL.D., Professor of Dermatology in the University of Pennsylvania. Pp. 753; 51 colored plates and 242 cuts. Price, $7.00. J. B. Lippincott Co., Philadelphia and London, 1917.

American physicians can take considerable pride in the high quality of the works on dermatology published in recent years. The text-books written by such men as Stelwagon, Hyde, Pusey, Sutton and others are unexcelled in the literature of cutaneous medicine. A recent addition to these well known works, is this new text-book by Dr. Hartzell. It is a comprehensive treatise well suited to the needs of the general practitioner. It is profusely illustrated, the colored plates being unusually successful and natural in appearance.

F. S. PALMER.

Physical Diagnosis. By W. D. Rose, M. D., Lecturer on Physical Diagnosis and Associate Professor of Medicine in the Medical Department of the University of Arkansas, etc. 499 Pp., 294 illustrations. Price, $4.00. C. V. Mosby Co., St. Louis. 1917.

The author states that in the preparation of this volume he has in mind the medical student and the busy practitioner. For their benefit he has presented in a brief space the principles of physical diagnosis with the physical signs in the commoner diseases of the respiratory and circulatory systems. With so much material condensed into one volume no one subject can be considered in detail. The main features, however, are represented in the diagnosis of a great number of diseased conditions. One feature of the work is the profusion of illustrations. Few of these are original with the author but they are assembled from a variety of standard publications. The book is useful for ready reference and a minimum expenditure of time. SMITH.

Diseases of the Chest and the Principles of Physical Diagnosis. By George W. Norris, M. D., Assistant Professor of Medicine in the University of Pennsylvania, and Henry R. M. Landis, M. D., Assistant Professor of Medicine in the University of Pennsylvania, with a chapter on the Electrocardiograph in Heart Disease, by Edward B.

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Krumbharr, Ph.D., M. D., Assistant Professor of Research Medicine in the University of Pennsylvania. Octavo volume of 782 pages with 413 illustrations. Cloth, $7.00, net. Half Morocco, $8.50, net. W. B. Saunders Company, Philadelphia and London, 1917.

This book deals exclusively with physical diagnosis of the heart and lungs in health and disease. Special attention is paid to the subject of diagnostic acoustics because only thru the understanding of the laws of sound production and transmission can the results of percussion and auscultation be definitely interpreted. A novel feature of the work is the profusion of illustrations of frozen sections of the cadaver hardened in formalin, showing conditions of the lungs and heart in health and disease. All the newer methods and discoveries under physical diagnosis are given in detail, including the many forms of arrhythmia, together with the instruments of precision for their demonstration. There is no book published containing more information than this on the latest knowledge of the lungs and heart. SMITH.

Practical Materia Medica and Prescription Writing with Illustrations. By Oscar W. Bethea, M. D., Ph.G., F. C. S., Assistant Professor of Materia Medica and Instructor in Prescription Writing Tulane University of Louisiana, etc. 562 Pp. Second Revised Edition. Price, $4.50. F. A. Davis Co., Philadelphia, 1917.

The second edition has brought this work up to date, adding new drugs and dropping some which have become useless. It is a complete listing of drugs of everyday use with descriptions of their applications. Part II is devoted to prescription writing which many practitioners might read with profit. In Part III fifty prescriptions are given, illustrating common errors in prescription writing, such as misspelling, poor Latin, bad arrangements, improper amounts of ingredients, etc., with the corrected prescription accompanying each. These are selected from prescriptions which have actually been written in the practice of medicine. The value of the work is evident from this brief description. SMITH.

Handbook of Gynecology for Students and Practitioners. By Henry Foster Lewis, A. B., M. D., Professor and Head of the Department of Obstetrics and Gynecology in Loyola University School of Medicine, etc., and Alfred de Roulet, B. Sc., M. S., M. D., Professor of Gynecology in Loyola University School of Medicine, etc. 452 Pp., 177 illustrations. Price, $4.00. C. V. Mosby Co., St. Louis, 1917.

This book presents the essential features of gynecological practice. As stated by the authors they have omitted long discussions of major operations and their technic, while presenting the principles of surgery adaptable to the special operation. The plan is followed of classifying diseases according to pathology, treating in sections the various types of infection. For instance, as they affect the tissues and organs of women, calling special attention to the parts most commonly attacked by these organisms, as illustrated by neoplasms, traumas, malformations. Thus the various traumatic conditions of the vulvar outlet are in a separate chapter, entitled gynecological hernia which includes prolapse, cystocele, and rectocele. Many original illustrations add to the interest and lucidity of the text. The work is to be commended as a brief description of the many procedures in the practice of gynecology. SMITH.

Kirk's Handbook of Physiology. Revised and Rewritten by Chas. Wilson Greene, A. M., Ph. D., Professor of Physiology and Pharmacology, University of Missouri. Ninth American Revision, 790 Pp. with 509 Illustrations Including many in Colors. Price, $3.75. Wm. Wood & Co., New York, 1917.

The interest in the study of physiology is demonstrated by the appearance of the ninth edition of this well known work. Nearly every physician has studied some edition of this book either as student or practitioner. The reviser states that the chapter on nutrition has been rewritten in order to emphasize the fundamental work of Osborne and Mendel on food factors necessary for growth and of Funk and Voegtlin and others on the vitamines and nutritional diseases. Few persons not in touch with the teaching or study of physiology realize the immense strides made from year to year in this branch of medical knowledge. In this volume can be found the latest information, together with illustrations of all the modern facts of physiology. SMITH.

International Clinics. Twenty-seventh Series, 1917. Vols. II, III, IV. A Quarterly of Illustrated Clinical Lectures by Leading Members of the Medical Profession Thruout the World. Edited by H. R. M. Landis, M. D., Philadelphia. Price, $2.00 per volume. J. B. Lippincott, Philadelphia and London.

These volumes published every three months contain a wealth of information concerning work done by leading physicians and surgeons thruout the world. The articles in each consist of reported clinics of lectures on a great variety of subjects. For instance, Vol. IV presents a clinic on military bone surgery, by Albee, with illustrations showing many points in his well known work. A clinic by Bevan considers comminuted fractures, general considerations of abdominal surgery, fascial sarcoma of the abdomen, Coley's toxins and use of the x-ray in the treatment of sarcoma, sarcoma of the ilium and suprapubic drainage of the bladder. About two-thirds of each volume is devoted to surgical clinics with one-third for medicine. Tucker presents a study of fifteen cases of brain tumor of obscure localization. The illustrations of brain sections present a graphic demonstration of such localizations. These volumes are worth anybody's while to study many valuable and interesting medical and surgical topics. SMITH.

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ORIGINAL CONTRIBUTIONS

THE LOST ART OF OBSTETRICS.*

By PALMER FINDLEY, M. D.
OMAHA, NEB.

In the November, 1915, number of *Surgery, Gynecology and Obstetrics* we read with much profit a contribution by R. W. Holmes on the subject of "Obstetrics a Lost Art." It was a well timed and forceful arraignment of cesarean section, as it has been practised in late years. Now comes another article of the same sort by Whitridge Williams on "The Abuse of Cesarean Section," published in the August number of *Surgery, Gynecology and Obstetrics.* I commend both these papers to your earnest consideration. They were written by men who know whereof they speak and they have sounded a note of warning which the profession will do well to heed.

I do not know whether the *furor operateonis* has reached as far west as Salt Lake City, but I do know that it is near at hand and when it arrives, if indeed it has not already arrived, the art of obstetrics will be in grave danger of becoming lost.

Obstetrics in its highest conception is not an exact science, but it is more nearly so than any other department of medicine and I confess a feeling of chagrin and disappointment when I reflect upon the manifold abuses that have crept into obstetric practice—abuses which would never exist were it not for the want of training and the temptation of notoriety from the performance of a spectacular operation. The fault is mainly fundamental, in that lack of training in modern obstetrics is largely responsible for these abuses. Almost all medical students aspire to be surgeons and the few who eventually take up the serious task of perfecting themselves in the art of midwifery do so largely because of a chance opportunity. Unfortunately obstetrics does not receive reward proportionate to responsibilities and as a natural sequence there is a disposition on the part of the profession to neglect it, both in preparation and in practice.

Belly-ripping has become a mania and its maniacal ravages have invaded the realm of obstetrics to the extent of threatening to supplant many well tried and altogether reliable manual means of delivery thru the natural passages. I have sometimes suspicioned that the surgeon is either unaware of the existence of a birth canal or that he labors under the impression that the delivery of a child thru the natural passages is a provision for those who do not have a competent surgeon at hand, prepared to deliver thru an abdominal incision; in other words, that he views the natural passages as a makeshift exit to be used when the surgeon is otherwise engaged.

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*Read before the Twenty-third Annual Meeting of Utah State Medical Association, Salt Lake City, Utah, Sept. 12-13, 1917.

Cesarean section was primarily employed in cases of contracted pelvis of not more than 6.5 cm. Today almost any degree of pelvic contraction will suffice for an indication. If we were to tabulate the indications for cesarean section as accepted by the rank and file of the profession, we would be amazed and, if I mistake not, humiliated. We would find in this list pelvic measurements as high as 9 cm., placenta previa, eclampsia and other toxemias of pregnancy; breech, face, brow and transverse presentations and, finally, we learn from our Boston friends that the pampered society woman who is not equal to the demands of labor should be spared the exhaustive results of labor upon her nervous mechanism by resort to cesarean section.

One might with reason enquire what has become of the teachings of Smellie, Tarnier, Hubert, Simpson, Braxton Hicks, Chamberlain and a host of able obstetricians, living and dead, who knew the art of delivery by forceps, by version, by the application of the hydrostatic bag and, above all, who had faith born of experience in the ultimate triumph of Nature in its greatest of all achievements, that of bringing into the world a new life and in the manner designed by an all wise Creator. I quote from Holmes who asks: "Are we attempting to minimize the precepts and examples of the past masters in the art or are we attempting to ride rough shod past all obstetric rules in the hope of formulating the axiom that the quickest way out is the ethical way."

Let us briefly consider these indications and something that may be expected from their application. All will readily agree that in contracted pelvis of 7.5 cm. or under, elective cesarean section is the operation of choice. But the operation must be done before the patient has reached the stage of exhaustion, as first indicated by a rising pulse rate, and before there is evidence or suspicion of infection. In event of exhaustion or of probable or known infection, the conservative cesarean operation must be set aside for the more radical Porro-cesarean or for some means of delivery of the child thru the natural passages, even tho such delivery may involve the sacrifice of the child. With every added hour of the second stage of labor, the risk of cesarean section is increased and, all other things being equal, the conservative operation at the onset of labor, with a legitimate maternal mortality of not more than 2 per cent., becomes a most hazardous operation in the stage of exhaustion with a possible mortality to the mother of 10 per cent.

I am assuming that these cases, under the above conditions, are in hands of trained surgeons. But let it be understood that it is one thing to be trained in surgical technic and quite another thing to couple this technical training with an understanding of the existing conditions in a given obstetric problem. A cesarean section is not a difficult operation. It can be done by an operator of mediocre ability, but to have a clear and comprehensive understanding of the indications for it implies a knowledge of obstetrics which relatively few possess in this "safe for democracy" land of ours.

I remember well how deeply impressed I was by the accuracy of a certain instructor in obstetrics in a certain clinic somewhere in Europe. So trained was he in the art of obstetrics that he seemed to possess the ability to follow with mathematical percision the progress of labor, to judge unfailingly the powers of labor and the resisting forces to the progress of the child. And it was then and there that I learned my most valuable lesson in obstetrics—that of trusting to Nature's forces. I learned that, if a woman is given a chance, she will overcome obstacles which at first seem almost insurmountable. And in the years that have followed I have had many an occasion to recall triumphs in individual cases conducted by this Master; recalled them because of the many cases I have seen sacrificed to ignorance and to the greed of notoriety.

What of the moderately contracted pelvis, the pelvis of 8 to 9.5 cm.? Are we to apply the test of labor and failing in this to perform a cesarean operation? If we give them the test of labor over a period of several hours in the second stage, we have brought them to the stage of exhaustion and the hazards are increased with every hour of labor. The fact is that four out of every five of such cases will deliver themselves and only require watchful waiting on the part of the accoucher. If a disproportion between the presenting head and the pelvis exists, if the cervix is unyielding and the uterine contractions ineffectual, there is argument in favor of a conservative cesarean section, if done in the absence of infection and before the stage of exhaustion. I am of the opinion, however, that the need for such interference will be less and less with added experience in the conduct of these cases. Give the woman time, fortify yourself against the temptation to save yourself time and thereby gain the applause of the community by the doing of a wonderful operation, and most of these women will be delivered spontaneously or, at most, by the aid of forceps or version. Pubiotomy finds a useful place in the cases where the test of labor has been applied without results and I believe will find a more favorable reception by the profession when the operation becomes better understood.

Of late we have heard and seen much of cesarean section for placenta previa. I would heartily endorse the operation in a central implantation of the placenta in a primipara, where version is always attended with grave danger, grave to the mother because of the liability to rupture of the uterus and grave to the child because of possible injuries inflicted in the act of turning and extracting. But in all other cases and particularly in multiparae the application of the hydrostatic bag, followed by version and extraction, will save more mothers with but a slightly higher fetal mortality. These babies are usually premature and are often dead or seriously affected by the loss of blood and it has seemed to me that we are not justified in adding extra hazard to the mother in the interest of a child of doubtful existence.

Eclampsia is yet another of the furors of obstetrics which has been assigned to the domain of the abdominal surgeon. We should remember in dealing with these cases that labor usually progresses rapidly, that at best the life of the child is imperiled from prematurity, toxemia and the forceful uterine contractions. Moreover an eclamptic individual is a poor subject for operation, just as is any other toxic individual. Bearing these facts in mind, does it not appeal to you that most American obstetricians are wise in choosing the middle ground between early radical interference, as practised in London, and the tactics of long delay as advocated by Stroganoff, of Russia? In an old primipara with a rigid cervix and a viable fetus cesarean section, done under favorable conditions, is a justifiable procedure, but in the absence of a contracted pelvis or an obstructing tumor I can see no justification for it on a multiparous eclamptic. There is, however, a very useful operative procedure for eclamptic cases with delayed dilatation of the cervix. I refer to vaginal hysterotomy which may very properly supplant the more tedious and, at times, impossible attempt at manual dilatation of the cervix.

I need only mention brow, face, breech and transverse presentations in the absence of pelvic contractions, as proposed indications for cesarean section, to condemn them as unworthy of the consideration of any one who knows the fundamental principles of obstetrics. In a neglected transverse presentation, with the shoulder so impacted that version is impossible without grave danger of rupture of the uterus and serious injury to the child, cesarean section may be considered, bearing in mind that in such cases the mother is usually exhausted and probably infected from repeated attempts at delivery. When these conditions prevail there is no place for a conservative cesarean operation. The choice must be for a Porro-cesarean or for decapitation and extraction. Where the desire for a living child is great a cesarean section followed by removal of the uterus may be chosen. In breech and face presentations, in the absence of a marked pelvic contraction, cesarean section finds no place, with the possible exception of an old primipara with a rigid cervix.

Many of our ablest obstetricians subscribe to the dictum "once a cesarean section, always a cesarean section." I have recently taken occasion to compile all reported cases of cesarean section at my command which had subsequently become pregnant and I found that in 2 per cent. of this number the uterus ruptured thru the scar. I concluded that we are not justified in adopting the dictum, "once a cesarean section, always a cesarean section," but that all such cases should be delivered in a hospital with every facility at hand in event of an impending rupture. Since we have no means of estimating the resisting quality of a uterine scar, therefore, such procedures as the administration of pituitrin, the application of high forceps, version and the introduction of a bag should be avoided. If my conclusions are justified in fact, do they not present a potent argument against the indiscriminate application of cesarean section? Otherwise, we condemn the parturient woman to the horrors of impending disaster in every subsequent delivery.

My plea is that we return more nearly to the teachings of the old masters of obstetrics in our indications for cesarean section, that we strive more earnestly to perfect ourselves in the art of manual delivery and, above all, that we fortify ourselves in faith in the powers of Nature. The glamor which surrounds the operation of cesarean section is indeed unfortunate, in that it sorely tempts the ambitious surgeon. The unrecorded cases would fill volumes but they will never be published, if for no other reason than that they will not bear the light of criticism. Time will not permit of more than a brief consideration of other abuses which have crept into the practice of obstetrics.

We have in pituitrin a drug that has rapidly become indispensable but, as with all good things, it is capable of doing mischief when wrongly applied. I submit the proposition that pituitrin is a substitute for low forceps. It will find a wide field of usefulness if restricted within this limit and this limit alone. To give it in large doses, to begin its administration before the head is fixed at the inlet and the cervix effaced and dilated, is to invite disaster from rupture of the uterus and compression of the child's head. I am now giving no more than ½ cc. to a dose and usually only 2 to 4 minims.

Permit me to enter a protest against the pernicious habit of making repeated vaginal examinations in the course of the second stage of labor. Most of these examinations serve no good purpose. Intelligent abdominal palpation combined with rectal examinations will suffice in the majority of cases for an intelligent interpretation of the progress of labor and the conditions necessary for a successful delivery. I would not be understood to imply that all vaginal examinations are unnecessary and harmful, but I know from personal experience and from the experience of others that it is possible to determine with accuracy the progress the presenting part is making thru the pelvis, the degree of dilatation and effacement of the cervix and the fixity of the head by rectal examinations combined with abdominal palpation, and it must be admitted that these are the factors usually sought for in making a vaginal examination. The exact attitude of the presenting head, the detection of a prolapsed cord and in doubtful cases the differentiation of a head from a breech presentation calls for a vaginal examination and, where such need is apparent, I do not object to the procedure.

My zeal in advising rectal examinations is inspired, first, by the satisfactory results in its application and, second, by having witnessed the frightful results of repeated vaginal examinations. Shortly before the outbreak of the war I was in attendance upon a certain obstetric clinic for a period of several weeks. In this clinic it was customary for parturient women in the second stage of labor to be examined by each of several students and assistants and often these series of examinations were repeated one or more times, so that every woman was examined five to twenty times in the course of the second stage. These examinations were conducted with all due regard for cleanliness and yet 30 per cent. of these women were infected. I am convinced that rectal examinations will replace 90 per cent. of all vaginal examinations, that with perseverance one will become well satisfied with the method and that the percentage of puerperal infection will be materially reduced.

Every year I see a number of cases of puerperal sepsis and daily I see the end results in my gynecologic practice. Puerperal sepsis has not lessened in frequency in private practice. Making allowance for a small percentage of cases which are clearly chargeable to latent infections resident in the genital tract or in remote portions of the body prior to labor, we are bound to admit that the profession is confronted with a serious indictment. Personally, I believe that the majority of these cases are chargeable to repeated and unwarranted vaginal examinations.

And when sepsis is initiated, what then? Why, the curette and intrauterine douche, of course! Fortunate, indeed, will it be for our septic cases when the profession, as a whole, adopts the doctrine of non-surgical interference in the management of puerperal sepsis. Many have learned this lesson but unfortunately not all practise it and as a result the mortality is increased and the infections which might have remained localized are made widespread. Fresh air, nourishing food, rest and cleanliness will do all that can be done for these cases and only harm can follow from intrauterine manipulations, save in the presence of retained placental tissue and even then the problem is grave, for the danger of doing harm is great.

Permit me to end this diatribe with an expression of confidence in the ultimate triumph of obstetrics. If it is true that the fault lies mainly in our educational system, may we not confidently look to our educators in medicine to place the instructions in obstetrics on a higher plane? There are but two or three medical schools in the country that are equipped to teach obstetrics in an eminently scientific and practical manner. We can expect little advance on the part of the profession until our medical colleges point the way. I believe they will.

ANALGESICS IN THE FIRST STAGE OF LABOR.

R. W. STEARNS, M. D.
MEDFORD, OREGON.

In ordinary practice we are led to look upon pain as a thing not materially influencing our prognosis or giving us any alarming apprehensions but simply as a sign board pointing us to the seat of trouble. The trouble located, we relieve the pain as a matter of human kindness, not with the idea of exercising any therepeutic agent in the hypodermic given. It is different in the practice of obstetrics and midwifery, for then severe and long continued pain becomes one of the chief obstacles to a safe and normal delivery and puerperium. It ceases to be simply a diagnostic sign and becomes one of the main factors we have to deal with in making our prognosis. Many women have been worn out by terrific persistent pain and required forceps with its train of evil consequences who might otherwise have gone to normal completion of labor. Aseptic technic having reached such a wonderful state of perfection, I believe pain takes a leading place as an obstacle to successful, normal delivery and a rapid return to normal nervous and physical strength in the puerperium. It was a strong conviction of this fact which led me to study this subject.

The list of measures used as analgesics and sedatives in the first stage of labor comprises the following: morphine, either alone or in combination with the cactin and hyoscine or scopolomine; codeine, belladonna, either applied locally as cerate or given as atropine; ether, nitrous oxide, chloral, bromide, hot douches, cocaine injected locally and pantopon.

Local measures as the hot douche and the belladonna cerate rubbed into the lining of the cervix are objectionable because of the possibility of introducing infection, as the cerate must be well rubbed in to have effect, and some water from a douche might enter the womb. I have never used either.

Chloral is very good when an hypnotic effect is desired and often works well in combination with other drugs. Hare, p. 168, states: "Chloral is one of the purest hypnotics we have and may therefore be used where simple nervous insomnia is present, but not when sleeplessness is due to pain. When pain is present it is to be used in combination with morphine." He further states that alarming symptoms have followed a dose of thirty grains and death after thirty to forty-five. Such reaction is no doubt very unusual from such moderate dosage but reminds us we should exercise considerable care in giving the dose advocated by some, namely, thirty grains repeated in half an hour. The greater part of the first dose might still be in the rectum when the second was administered. Its general use by mouth is prohibited by the frequent nausea or vomiting. The reaction is much slower and more uncertain than morphine or codeine. Edgar cautions against its use in anemic or debilitated subjects or in the presence of any heart involvement. DeLee speaks of its irritative action on the kidneys and its depressing action resembling chloroform. He believes it should be used very sparingly. I have not used it often or in large doses. When given per rectum in full doses it is likely to be expelled or cause more or less distress.

Bromides and atropine are only used as adjuncts to other drugs and need no discussion.

Ether has been advocated as an analgesic for the first stage of labor, but by most men it, as well as nitrous oxide and oxygen, is reserved for the second stage, with which this paper does not deal. Newell, in 1906, read an article before the Am. Gynec. Society, stating that he had seen no bad results from its prolonged use. It was his custom, however, to terminate about seventy-five per cent. of his cases by forceps delivery. This required a much shorter time for ether administration than most of us would have. I have used it in two cases to produce quiet and sleep which was then maintained by morphine previously given. Newell later reports a series of 123 carefully observed cases in which scopolomine and morphine were used with the following conclusions:

"(1) The great majority of patients reacted to dose of morphine one-sixth and scopolomine one one-hundred-fiftieth. In some cases this dose was repeated at the end of an hour or two. In no case was it repeated after the cervix became two-thirds dilated.

"(2) The pain of labor was markedly reduced, in some cases so much so that the labor was called painless by the patient.

"(3) The recollection of pain endured was almost abolished.

"(4) Labor seems to have been definitely shortened, as well as made easier.

"(5) The necessity for operative interference has been distinctly reduced in this series of cases, as compared with the average number of operative deliveries in a similar number of patients not so treated.

"(6) No tendency to hemorrhage has been noted in any of our cases, and only rarely has undue relaxation of the uterus been observed.

"(7) No bad effects of any sort have been noted, whether in the heart, respiration, or pulse. In other words, we have a distinctly favorable effect in the great majority of cases on whom the drug has been employed and no bad effects noted."

You will note especially the last sentence under point one above. "In no case was it repeated after the cervix became two-thirds dilated." For those less experienced I would suggest the upper limit of dilation as one-half instead of two-thirds. I purposely make no mention of the voluminous literature on "twilight sleep," in the practice of which the attempt is made to use these drugs to the point of complete anesthesia. I have never made that a practice and this paper does not pretend to deal with that subject.

Years ago Sydenham said that "without morphine few would be callous enough to practice therepeutics." It commends itself as the safest sure remedy for the pain of the first stage of labor. Aside from ether it gives the most complete relief from the agonizing pain which, with the loss of food and sleep, so often unfits a woman for the strenuous second stage. It conserves all her powers for the final expulsive effort, when without it so many find themselves exhausted in body and spirit. The action of morphine hypodermically is quick and definite. Within one-half to one hour it has reached its maximum effect and, if there is no disturbance of the fetal heart tones and if the mother is in good condition, it *can* be repeated. Very seldom are more than two doses required. If the patient is too badly excited and unstrung a few whiffs of ether will get her under the influence and the morphine will then keep her from feeling the worst of the pain. There are no bad effects.

DeLee, one of the most conservative writers on the subject, gives no contraindications to its use early in the first stage. It is not, however, a measure for universal use any more than is the forceps operation at present. There are six definite and distinctive indications for its use, and given any one of these, in the absence of any contraindication, the limited use of morphine will be a great aid to the obstetrican. The indications are:

(1) The early "pinching" or "back pains" which are so wearing on the patient if long continued. This indication will often be found in the young nervous primipara. She has had pains keep her awake all night, perhaps, and now thinks she is in the midst of a hard labor and that you ought to stay and deliver in an hour or two. Give such a woman a hypodermic of one-fourth grain morphine, telling her it will help her bear the pain until time for delivery. Get the room arranged, instruct the nurse to call you, and she is content to have you leave for several hours. The pains may or may not stop for a time but they will be deadened sufficiently so she can get some rest and be ready for the real effective pains which are to follow.

(2) Tetanic contraction of the uterus affecting the lower uterine segment particularly. This is an indication not so often found but in which there is great need for some relief. I have had two cases and will give brief histories to illustrate.

Case 1. Mrs. M., age 20. Always well and strong until, at age of seventeen, her first baby was born. At this time she says she had very severe pains for eighteen hours but that they never moved down at all and were only in her back. She was finally chloroformed and an instrumental delivery made which with the repair work occupied three solid hours and left her a semi-invalid for two years. The doctor said at the time the womb had not opened like it should.

Three years later I delivered her of an eight and one-half pound boy. The pains started at four a. m. on Jan. 19 and came with increasing strength and severity until at seven they were coming every five minutes and lasting one minute and she was bearing down well. Pains continued hard until ten a. m., when they suddenly ceased except for an excrutiating pain in the back. She no longer cared to bear down. The woman, altho very gritty, became disheartened, for these back pains were the only kind she had had before, when she had gone thru such a terrible ordeal.

Examination revealed only two fingers dilatation and a firm cervix apparently in a state of tetanic contraction. I gave her a hypodermic of one-fourth grain morphine and repeated in forty minutes. She rested for four hours, when the pains again came on full force and she wanted to bear down. She delivered normally in three hours more, had a very normal puerperium and now feels better than at any time since her first baby was born.

What would have happened had I not given the morphine I do not know, but I am satisfied it helped relax the cervix and probably obviated a second forceps delivery.

Case 2. Mrs. D., age 21 years. Always well and strong. First baby born when eighteen years old. In hard labor twenty-eight hours, when doctor took the baby with instruments. Patient was lacerated some but not repaired. Three years later I delivered her of an eight pound boy. Pains kept her awake all night Aug. 14.

I was called about eight a. m. Aug. 15 and found her well in labor with hard pains coming every six minutes and lasting nearly a minute. Pains increased in strength and frequency until eleven a. m., when she became very fretful, calling for forceps and chloroform. The pains lagged and no assurance could convince her that everything was all right. Examination showed only two fingers dilatation, with the cervix and lower uterine segment firm. I gave her one-fourth grain morphine and repeated in half an hour.

The patient, worn out with the eighteen hours of hard labor, went to sleep as soon as the pain was alleviated. She slept for three hours, being slightly aroused at five minute intervals. At two thirty p. m. the pains came on stronger than before and an examination at three revealed over five fingers dilatation and at four she was delivered normally without laceration. Here again I believe morphine was of great help.

(3) The third indication is in cases of threatened shock from pain and exhaustion. It arises often in primiparae, when there is a relative disproportion between fetus and pelvis, when the long continued agonizing pains threaten to wear the woman out before the first stage of labor is completed. I have had six such cases, three of them terminating normally and three requiring forceps delivery. None of the latter, however, were found necessary because of weakened pains. I will illustrate by one case only.

Mrs. C., age twenty-nine, primipara, always well and strong. Pelvic measurements above average, stout, blocky woman, with firm tissues. She had had pains for twelve hours when I saw her at ten a. m. Pains at that time were every eight minutes, fairly strong and continued thus for four hours, when examination showed three fingers dilatation. Pains came every four to five minutes, and lasted a full minute for eight hours longer, when patient began to feel worn out and a little nervous.

Hyoscine grains one one-hundredth, morphine one-quarter and cactin one-sixty-second were given and after one hour, pains being still very severe and baby's heart tones being all right, another hypodermic of morphine grains one-fourth was given. Patient slept for three hours, being partially awakened at each pain. When she awoke the pains began every two and three minutes very strong and continued so for five hours, when again she seemed exhausted and nervous. Examination showed cervix almost wholly dilated and I was considering forceps delivery but, owing to the fact that I had such a strong patient and that it would take several hours to get help, I determined to give her another rest and see if she could not deliver normally. She had now been in labor about twenty-eight hours. I gave morphine three-eighths grain, hyoscine one two-hundredth, and cactin one one-hundred and twenty-fourth. After half an hour she was still unable to rest much, so I gave her ether for a few minutes until she became quiet and slept except for a few seconds with each pain. She rested then about three hours, when the pains returned with tremendous vigor and she delivered in about seven hours, making a total of thirty-eight hours labor.

This was an unusual case in two ways. First, she was an unusually strong patient and, second, altho it was an extremely long, hard labor, and notwithstanding the mother had had in all seven-eighths of a grain morphine and over one-hundredth of hyoscine, and had a prolonged second stage with considerable moulding of the fetal skull, there was not the least tendency to narcosis of the child and no resuscitation required. The mother went on to quick recovery and did not realize she had gone thru a very severe labor, so well had the most severe pains been alleviated.

(4) Fourth indication is found in inertia uteri, due to reflex influence in nervous, highly sensitive patients. You are all cognizant of the depressive effect certain psychic influences have on labor pains. They often slow down or cease entirely, when a doctor or some neighbor enters the room. Often in highly sensitive women the first severe pains are enough of a shock to materially inhibit uterine activity. What is more logical than administering some analgesic and sedative to deaden the oversensitive nervous system, give the woman confidence in you and in herself, and allow labor to proceed normally.

(5) These patients have fulminating pains, coming so fast and furiously that they threaten to

completely destroy the integrity of the cervix and later the perineum. There are a certain number of women to whom severe pain has very little retarding effect. It seems almost impossible for them to relax when told to. I unfortunately have been unable to use analgesics and sedatives in any of my cases. I have had five cases in whom the indication was present but in none of them did I arrive early enough to be of service. I feel that in at least two of them lacerations might have been prevented, had the patients been in a hospital or had they called me earlier. One primipara, eighteen years of age, called me at midnight, saying she had had pains about one hour. When I stepped in the house half an hour later the head was just coming thru the perineum. I say thru advisedly, for she had a laceration extending nearly into the rectum. On examination the cervix was also found to have suffered a bilateral rent, requiring several stitches. How much morphine and chloral in the first stage would save a cervix in such a case I do not know but it seems its use is indicated.

(6) The last indication is similar to the fourth one given but more inclusive, namely, in pains of any sort in a patient not used to bearing pain and not able to stand it well. This is more commonly found in young primiparae among the highly educated and those of artistic temperament. A case follows:

Mrs. W., age twenty-six, always well and strong but nervous, a musician. Always much pain at menstrual periods. Measurements slightly below average. Was kept awake all night with pains and no appetite next morning. Pains so bad by eleven a. m. that the patient was extremely nervous, fretting and crying for chloroform and instruments.

Examination showed only two fingers dilatation. One-half grain of codeine phosphate was administered hypodermically. Pains relieved some and nervousness quieted a great deal, so that patient would doze off between pains, which were about five minutes apart. Labor progressed nicely and five hours after hypodermic was given dilatation was complete and in another hour the patient was delivered normally. No subsequent ill effects.

These indications have included about thirty-five per cent. of my cases and in no case has there been any bad effects. The contraindications to its use are, first, patients displaying any idiosyncrasy. This should be inquired into in taking the history. Second, former victims of the morphine habit should not be given the drug. Third, patients who, from principle or other reasons, do not want to take morphine. This objection I think will seldom obtain. Only one person has ever asked what was being given and few others realize it, for they are in no state of mind to be curious or to dwell on details. Fourth, a certain type of women who do not suffer greatly in delivery and who believe it is better to allow perverted nature to take its course. Fifth, when pains are irregular and feeble in a debilitated woman not over sensitive to pain. Lastly, in women with very thick abdominal wall, with placenta located anteriorly or in whom for any reason the fetal heart tones cannot be heard. Not more than one-fourth grain morphine should be given.

Everything should be done to relieve any mental excitement aggravating the pain. Careful preliminary preparation is a valuable asset. Have the room in readiness, a nurse and supplies on hand, the patient's bowels well emptied. Go early to your cases and by your speech and manner inspire assurance and confidence that all will be well.

THE VALUE OF PITUITARY EXTRACT IN INCOMPLETE ABORTION AND PLACENTA PREVIA.*

By A. Lipkis, M. D.

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During the past year I have treated incomplete abortion cases with small doses of pituitary extract without any curettement or packing, with perfect success. I usually give ½ cc. pituitary extract hypodermically every day or every other day until the placenta is expelled. The longest it took in one case was five days; often it requires only two to three days.

The amount of bleeding during the whole time is no more than for an ordinary menstrual period, usually less than that. The general condition of the woman after getting thru with her confinement is a good deal better than that of a woman who with a similar condition is given an anesthetic and curetted.

The mortality in miscarriages is given by all authorities as greater than that of pregnancy at term. Taussig (Prevention and Treatment of Abortion p. 58) states that the mortality figures for miscarriages as given in most text-books are too low. He quotes authorities whose figures reach as high as 2 and 4½ per cent., depending on whether it is spontaneous or induced. "The dangers from operative interference," he states, "are four-fold: (1) the danger of infection from the instruments and the hands of the operator, (2) the danger of severe hemorrhage, (3) the danger of perforation to the uterine wall, (4) the danger of cervical laceration." By the use of pituitary extract the above dangers can be avoided and the mortality materially decreased.

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*Read before Salt Lake County Medical Society, Salt Lake City, Utah.

Pituitary extract in ¼ cc. doses has proved of value in a case of placenta previa, as is illustrated by the following history.

A woman of thirty, one child five years old, a three months miscarriage three years ago. When about three months advanced with her present pregnancy she noticed signs of bleeding. She was advised to stay in bed until all signs of blood disappeared. When about eight to eight and one-half months advanced, and apparently in good health, she suddenly had a big hemorrhage, four hours later another. She was sent to the hospital with a diagnosis of placenta previa marginalis. Two other physicians saw her in the hospital and they both concurred in the diagnosis. It was decided that the best treatment in this case would be a cesarean, but to postpone it as long as possible while she was not bleeding; meanwhile for her to stay in bed in the hospital.

About the middle of the second night I was called hurriedly to her bedside, being informed that she was in labor and bleeding. When I arrived, pain and hemorrhage had stopped. On examination the cervix was three fingers dilated. When the pain and bleeding returned she was given ¼ cc. pituitary extract. The pains increased but the bleeding stopped. My intentions were to repeat the small dose of pituitary extract if hemorrhage returned, but it was not necessary. A half-hour after the injection of pituitary extract the head was born. To forestall a hemorrhage after the delivery of the child she was given another ¼ cc. pituitary extract when the head was born. There was some bleeding when the child was delivered. The placenta was hastily delivered and the uterus packed, the packing being removed twenty-four hours later. The patient made an uneventful recovery.

Whether pituitary extract will continue to prove useful in placenta previa cases remains to be seen. One case does not prove anything, but it is worth a trial.

OLD PARENTAGE VERSUS YOUNG PARENTAGE.

By Casper L. Redfield.

CHICAGO, ILL.

At various times in the past biologists and eugenists have advocated the early marriage of superior young women and men with the view of improving the human race. Specifically, it has been urged that human reproduction of our present superior stock should be hastened enough to produce about four generations to the century. This means an average of twenty-five years from birth to birth as the generations succeed each other.

The difference between the biologists and the eugenists on one side, and me on the other, is that I have given this matter a careful and extended investigation and they have not. As a result of my own investigations I challenged the correctness of the proposed way of improving the human race, and offered a reward of $100 if any one would show any example of superior individuals being produced by breeding at an average rate of twenty-five years from parent to child for a century. To make the matter binding, so that there would be no mistake as to the facts, I offered another $100 if any very great man like Aristotle, Newton, Franklin, etc., was ever produced by breeding as rapidly as thirty-three years from father to child for a century. That offer was afterwards doubled, and the money deposited with the American Genetic Association.

To assist persons trying to find any case of superior men and women being produced by generations following each other rapidly I published a pamphlet entitled "Great Men" and gratuitously distributed about four thousand copies of it. In that pamphlet I gave a list of 571 eminent men and the ages of the fathers when the men were born. I also gave the ages of the grandfathers and great-grandfathers (as far as known at the time), when the next in succession to the great man was born. In all I gave ages of parents in more than a thousand cases, and those cases give an accurate index of how great men are produced. In that thousand cases the average age of father when child was born was 40.7 years. There is no community in the world in which fathers average as old as that when their children are born.

The offer stood for three years and many persons made attempts to capture the money. Efforts to find some superior person produced by an average of twenty-five years or less from parent to child were quickly abandoned, and all efforts concentrated upon trying to find some very superior person produced at the rate of thirty-three or less years from father to son. No effort was successful. The best any one could do was to find a few fractions of pedigrees which were at this rate but nothing complete. In other words, they found a few young parents in pedigrees which were otherwise composed of old parents.

As a result of all of this investigating over a period of three years, the biologists of the American Genetic Association realized that the superior men and women of the world have come by a process of slow breeding and not by a process of rapid breeding. However, they do not like to acknowledge the legitimate conclusions to be drawn from that fact, because it gives a body blow to their preconceived ideas. In an attempt to avoid this conclusion they try to explain the matter as follows: "The production of great men from late marriages is quite what would be expected on any hypothesis of heredity. Great men usually come from families which have more than ordinary intellect, and in such families marriage is regularly postponed beyond the average of the race, because of economic and social reasons."

One wonders what "economic and social reasons" bring about the same result in trotting horses, hunting dogs and milk-producing cows. In the pedigrees of superior animals of those kinds high ages of parents are more pronounced than in human beings. Does the biologist's "hypothesis of heredity" assume that breeders refrain from breeding animals of superior stock until after those animals are well advanced in age? The explanation offered has no merit and is due to a superficial consideration of facts. Unlike me, they did not go into a careful consideration of all facts bearing upon the matter before giving out statements.

The principles involved in human improvement are the same as those involved in improving the horse, the dog and the cow. Before I gave out anything in this matter I was careful to check my results in animals of several different kinds and extend the investigation over several successive generations. What I have given were the facts determined by direct investigation. It is true that I have discussed a certain amount of theory evolved from a study of the facts, but those persons who have not gone into the facts have confused the two.

During the past century the trotter has advanced from the three-minute to the two-minute trotter. Any one who knows anything about the energy expended in trotting a mile at high speed must know that this is a great advance in the trotting power of horses. There are stud books and histories of the trotter during that century, and by carefully examining them we can put our fingers on exactly what peculiarities characterized lines of descent which showed improvement and compare them with what is normal in horse breeding operations.

By careful tabulations from horse records it is found that the average length of time from birth to birth in the male line was, in the middle part of last century, about ten years. This means that in normal horse breeding there are ten generations to the century in the male line. But taking the first 180 trotters to reach a speed of a mile in 2:10, it is found that they were produced at the rate of seven generations to the century, not ten generations. In other words, the average age of 2,860 known sires in those pedigrees is 14.62 years.

Several persons have attempted to explain this by saying that these sires were racing during their early lives and breeding during their later lives. It is natural that improving lines should be at a higher average age than the normal. That attempted explanation ignores facts. The 2,860 sires referred to did not go to the race track, and their high average age is not due to any such thing. Omitting one wholly exceptional animal, the average age of all of the sires in those pedigrees which raced first and were bred later is only 9.66 years.

This looks like contradiction, but we may find a full explanation by looking at the histories of these horses, and comparing progeny produced by them at different times in their lives. The 2,860 sires which appear in these pedigrees at an average age of 14.62 years were horses used principally for road work, and used only occasionally for breeding purposes. As long as these horses were so used, the older they were, the better was their progeny. The horses which were raced first and were bred afterwards and appear in these pedigrees at an average age of 9.66, got their best progeny immediately after retiring from the track. Those got earlier or later were inferior, the amount of inferiority being determined by the length of time from the date of retirement from the track. Horses which are regularly in the stud are idle animals, from the physical exercise standpoint, and animals idle for a long time do not appear in improving lines.

Those statements are not dictum as many persons have assumed. They represent exact facts found in those pedigrees. They are facts which any one can verify for himself by going into pedigrees and horse history. The facts themselves were first presented in various articles published from 1902 to 1905 in *The Horseman, The Horse Review* and *The Horse World,* and ran the gantlet of criticisms by experts. I have recently condensed them in *Dynamic Evolution* published by G. P. Putnam's Sons, of New York. Similar facts for English setters were published in *The American Field* and those for milk-producing cows in *The Holstein-Friesian Register*. These are also condensed in the same book.

It is well known that a man will gain physical power by taking a course in physical training, and that to make any considerable gain the training must continue for some length of time. It is also known that a man will lose physical strength by following a sedentary life.

To get good campaigning trotters, trainers take colts when they are young and train them continuously year after year. The records of the race track show that a horse thus continually trained will gain in speed and trotting power up to at least seventeen years of age. But such gain will not continue if training ceases. In fact, it is known that an idle horse quickly loses in trotting power, and no professional trainer ever permits a horse in his care to go without his regular "work out."

The Holstein-Friesian Association is an organization for officially and scientifically testing cows of the Holstein-Friesian breed. Those tests show that when cows are regularly bred and regularly milked, they increase in milk-producing power year by year up to at least seven years of age.

The Binet system sets a standard of mental development as representing normal-mindedness in a child of five years of age. It sets a higher standard for normal-mindedness in a six-year-old, a still higher standard for a seven-year-old and so on up to about sixteen years of age.

In the aviation branch of the European war, nothing but the "cream" of the country's youth is wanted. *Young* men are wanted because they are teachable, and because they are daring. But the life and death struggle for supremacy in the air has taught the English and French authorities that nothing less than eighteen years of age should be accepted. They say that the young man less than eighteen is bold, but "lacks judgment." In other words, at less than eighteen, no young man, no matter how brilliant he may be, has reached that mental development which will make him a match for an older man in a life and death struggle in which intelligence more than physical strength is the deciding factor.

In the ordinary affairs of life we would give a good job to a bright young man of twenty, but we would not make him the mayor of a city. By the time he is thirty we might make him mayor but would not make him the governor of a state. By the time he is forty we might make him a governor but we would not make him the president of the United States.

In all of these things it is the exercise, mental or physical, which causes the development of mental or physical power, and the amount of the development is directly measured by the amount of work employed in bringing about that development. Time, as represented by the age of the animal, is a factor in measuring the amount of such development. Taken by itself, the age of the animal is only an imperfect measure of the mental or physical development, but put that factor with the activity of the animal and we have an accurate representation of the amount of development coming from exercise or work performed.

Making accurate measurements in this way, and applying those measurements in the pedigrees of men, horses, dogs and cows, it is very quickly seen that improvement in any kind of powers comes from developing the same powers in parents, grandparents, etc., before they reproduce, and comes in no other way. That is the meaning of the fact that improvement comes thru old parentage and not thru young parentage.

Acidosis in Shock.—W. B. Cannon (Boston) France (Journal A. M. A., Feb. 23, 1918), has in his studies of shock found it desirable to examine the blood for certain chemical changes. Among these are changes in the alkali reserve and in the sugar content. A reduction of the former would be indicated by an abnormally small quantity of sodium bicarbonate in the blood and this is the condition defined by Henderson as acidosis. The sugar content might be significant as to the nature of the acidosis, and would also throw light on other processes in the body. The Van Slyke apparatus was used for the former determination. Any figures lower than 50 per cent. of volumes of carbon dioxid would indicate acidosis in an adult. The blood sugar was estimated by the easy and reliable method devised by Meyers and Bailey.

RENAL-FUNCTION TESTS IN CHILDREN.*

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New methods teach new facts, new facts lead to new theories and new theories foster new treatment. Only a few decades ago urine was being tasted for the detection of sugar and chemical methods were considered ultrascientific. For twenty years or more Fehling's test for sugar, the HNO_3 test for albumin and a microscopic examination for casts and pus cells have been the routine in urine examination.

As these examinations have become more universally made, the limits of their value have become better known and the medical world has turned to biochemistry to find out still more accurate means of laboratory diagnosis, especially in border line cases. The result is that in the last few years rapid progress has been made in the development of short methods. The use of these has taught us that we can no longer depend on the customary urine examinations alone for knowledge of functional derangement.

The blood is in such close contact with the cells of the organism where the metabolic processes occur that a study of its components has assumed first importance. The inorganic salts, total nitrogen, total non-protein nitrogen, urea nitrogen, sugar, total aminoacids, uric acid, acetone bodies, creatin, creatinin, oxalic acid, phenol, hydrogen ion concentration and the alkali reserve of the plasma have all been determined. To test the eliminative powers of the human body, foreign substances have been administered and their excretion quantitatively estimated in both normal and pathologic cases. Phloridzin, methylene blue, phenolsulphonphthalien and other substances have been used. Of these the phenolsulphonphthalein test of kidney function has assumed first importance and has become deservedly popular.

The ratio between the blood content and the urine content of substances normally present in both urine and blood shows the kidney's power of elimination in probably the most accurate manner. In 1910 Ambard, of Paris, after much experimental investigation on urea, found a method of expressing numerically the relation which exists between the concentration of urea in the blood and the rate of its excretion in the urine. This relation has been called Ambard's coefficient and is calculated from the formula:

$$K = \frac{Ur}{\sqrt{D \times \frac{70}{P} \times \frac{\sqrt{C}}{\sqrt{25}}}}$$

K=the coefficient of urea excretion.
Ur=urea grams per liter of blood.
D=urea grams excreted in urine in 24 hours.
C=urea grams per liter of urine.
P=bodyweight in kilograms.
70=standard bodyweight in kilograms.
25=standard concentration of urea grams per liter of urine.

All calculations by the author were made on the basis of Ambard's original formula. McLean's formula is somewhat simpler but is not yet so universally used.

As to how many and what tests are essential to an accurate understanding of the severity of a kidney lesion or lesions, there is some difference of opinion. Laboratory men agree that the more tests that can be made on a given case the better. Myers and Chance[1], of New York, believe that uric acid of the blood, urea nitrogen of blood and urine, Ambard's coefficient, creatinin, alkali reserve of the plasma and sugar of the blood are essential. Mosenthal[2], at Johns Hopkins Hospital, prefers total non-protein nitrogen of the blood, urea nitrogen of blood and urine, Ambard's coefficient, the phenolsulphonphthalien test and the test meal for renal function, followed by an estimation of the total nitrogen and chlorides of the urine.

At the biochemistry laboratory of the University of Oregon, our tests of the past year have included urea of the blood and urine, Ambard's coefficient, sugar, hydrogen ion concentration of the blood, alkali reserve of the plasma, the phenolsulphonphthalien test and the total nitrogen and salt components of the urine after the functional meal. As the latest and simplest methods of making these tests are not given in many of the texts, a brief description of some of them is therefore apropos.

The hypobromite method for urea was short but too inaccurate. Marshall's urease method is both accurate and short. It employs the enzyme in the soy bean to convert urea into ammonia, which is then, by means of an air stream, drawn into fiftieth normal or hundredth normal acid and the amount determined by titration. The only extra apparatus necessary is three large test-tubes with rubber connections and a suction pump for attachment to a faucet. Three cubic centimeters of blood are ordinarily used. The technic for both blood and urine is given in Webster's Diagnostic Methods (1916 ed.)

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*Read before Portland City and County Medical Society, Portland, Ore., Aug. 15, 1917.

The blood sugar method used is the colorimetric method of Lewis and Benedict[3]. Two cc. of oxalated blood is placed in a 25 cc. volumetric flask containing 5 cc. of water. After shaking, 15 cc. of a saturated aqueous solution of picric acid are added and the contents of the flask are made up to the mark with water and then shaken. After filtration 8 cc. aliquots are measured into two large test-tubes for duplicate determinations. Two cc. of saturated picric acid and one cc. of 10 per cent. sodium carbonate are added and the contents of the test-tube are evaporated rapidly over a direct flame until precipitation occurs. About 3 cc. of water are added and the tube heated to dissolve the precipitate, the contents of the tube transferred quantitatively to a 10 cc. volumetric flask, cooled, made up to volume, shaken and then filtered. The color is then compared in a Duboscq or a Lenz and Naumann colorimeter with a standard picramic acid solution and the percentage of sugar per 100 cc. of blood calculated.

The hydrogen ion concentration of the blood is determined by running two or three cc. of oxalated blood into a collodion dialyzing sac which is then placed in a test-tube containing three cc. of fresh normal saline. After dialyzing for five to seven minutes, five drops of phenolsulphonphthalein indicator is added to the dialysate and the color compared with the standard solutions recommended by Rowntree and Mariott[4]. Readings of 7.4 or below signify acidosis.

The alkali reserve of the blood plasma requires the special apparatus devised by Van Slyke[5]. It measures the amount of CO_2 present in plasma, plus the amount capable of being absorbed by the plasma on exposure to expired alveolar air. One cc. of plasma thus treated is placed in the apparatus and the CO_2 is released as a gas thru the action of H_2SO_4 in a vacuum. The amount of CO_2 is read off, the temperature and barometric pressure taken and the readings corrected according to a table prepared by Van Slyke. The norms are 55 cc. or more per 100 cc. of plasma for adults and 45 cc. or more for infants, i. e. CO_2 reduced to zero degrees, 760 mm. pressure bound as bicarbonate by 100 cc. of plasma. The readings of thirty to forty according to Van Slyke indicate moderate acidosis and below thirty severe acidosis.

Through the agency of the kidneys which excrete non-volatile acids, and the lungs which excrete volatile acids, the hydrogen ion concentration of the blood is kept within the narrow limits which are compatible with life. A lessening of the alkalinity of the blood below its normal level stimulates the respiratory center and thereby increases pulmonary ventilation to such an extent that the tension of CO_2 in the blood is reduced and the normal reaction of the blood is upheld.

With an abnormal amount of acid present in the body (blood and tissues) the organism strives to throw off CO_2 to compensate for this increasing acidity and thus keep the hydrogen ion concentration normal. Therefore, more CO_2 is excreted per minute than normally but the concentration of CO_2 per cc. of alveolar air is below normal. This is true because the increase in depth of respiration removes more CO_2 per minute but gives a lower percentage. In severe acidosis this process cannot bring about complete compensation and the hydrogen ion concentration changes toward the acid side[6].

By making a hydrogen ion and an alkali reserve estimation the presence of acidosis and its degree is determined, for the greater the amount of CO_2 that the plasma is able to contain, the greater is its power to absorb acids formed within the body, whether these acids are of the acetone series, carbonic acid, acid phosphates, acid sulphates, or perhaps abnormal acids as yet undiscovered. The extensive work of Howland and Mariott on children and of Van Slyke and his coworkers on adults has shown that acetonuria does not of itself mean acidosis. Acetonuria should be diagnosed "ketosis" not acidosis. In our own laboratory, working both on children and on medical students, acetonuria is common and can be produced experimentally at will, but acidosis is rare.

The phenolsulphonphthalien test of Rowntree and Geraghty and the Volhard test for chlorides in urine are described in most texts.

The total nitrogen test used is the microchemical test of Folin, the technic of which has been simplified by Dr. H. D. Haskins and can be easily preformed in any clinical laboratory. A measured quantity of urine is diluted two or three times with distilled water. One cc. of this is placed in a large size (200x25mm.) pyrex test-tube and to it is added a drop of copper sulphate solution, a glass bead, one cc H_2SO_4 (conc.) and one gram K_2SO_4. This is digested over a microburner for two minutes after it becomes green. It is then cooled and 6 cc. of distilled water and 3 cc. sat. NaOH added, after which it is distilled into 25 cc. N/50 H_2SO_4 and the amount of acid neutralized determined by titration with N/50 NaOH. The number of cc. of acid neutralized multiplied by 0.00028 gives the grams of nitrogen present in the 1 cc. of diluted urine. From this the twenty-four hours output is readily computed.

In children it is manifestly of vast importance in all kidney lesions that the extent of the lesion be known as accurately as possible. As Nellis B. Foster says, "gray hairs in the kidney" once formed remain for life. It should be emphasized, however, that the renal function tests show the degree of impairment just as the percentage of hemoglobin of the blood shows the degree of anemia, but does not indicate the etiologic factor. In the two cases presented herewith, both had tonsillitis. In case number 536 rabbit cultures, made by Dr. R. L. Benson from the tonsillar bacteria (streptococci), localized in the kidneys, and produced an acute hemorrhagic nephritis without affecting any other part of the rabbit.

Case number 536. A boy of seven previously well except for a mild attack of measles nine months before. Ten days before he had a slight coryza and pharyngitis from which he improved. On Dec. 25, after eating heartily he had an attack of "vomiting and high fever," after which, altho somewhat indisposed, he played about as usual.

When seen on Dec. 28, the mother had accidently noticed that the urine was very dark in color and had saved a sample. The temperature was 99.4°, there was an acetone odor to the breath. The whole pharynx was considerably inflamed. The tonsils were moderately large and covered with a slight exudate. The examination was otherwise negative. The next day there was some edema over the tibiae and sternum and a soft blowing systolic murmur at the apex, the heart having dilated one cm. The temperature was 104°, pulse 104, respiration 23.

The urine was smoky in color, boiled solid, had many leucocytes and erythrocytes and showed acetone bodies (sodium nitroprusside test). The casts present, even without centrifuging, were maximal in number and many were longer than the diameter of a low-power field. The amount of urine in twenty-four hours was 102 cc. As stated in the history, there was an acetone odor to the breath and acetone bodies were present in the urine. Whether true acidosis was present or not we do not know, as the hydrogen ion concentration was not noticeably affected and we did not have our alkali reserve apparatus at the time, so had no means of proving the existence of an acidosis except therapeutically. Further urine findings and the blood findings are given in table 1.

TABLE I.

Case 536. Acute Nephritis.

Date	Blood			Urine							
	pH.	Urea N. gms	Ambard's Index	Amount CC.	pH.	Urea N. 24 hr. gms	Total N. gms	Nitrogen of Albumin gms	Albumin in 24 hr. gms	Albumin per liter gms	Total N. Pct.
December 30	7.6	.081	.133	102	4.50	.427	.96	47	2 94	28.8	.94
December 31				170	4.50	.65	1 36	38	2.37	13 94	.80
January 1				225	4.50	1.05	1.85	.42	2.62	11 64	82
January 3				280	4.85	1.53	2.23	.38	2.37	8.64	.79
January 5				530	6.35	3.42					
January 6	7.8	.024	.100	860	6.35	5.77	6.63	.15	.94	1.09	77
January 7				1170	6.81						
January 8				1295	6.9						
January 15	7.7	.016	.066	1185		4.81	5.34	.00	000	.00	.45

It will be noted in table 1 that on Dec. 30 to Jan. 1 the hydrogen ion concentration of urine was decidedly acid. This of course means actual acidity and not the variable acidity obtained by titration with an alkali. The giving of sodium bicarbonate brought the acidity practically to normal within ten days. Table 1 also shows that the urea nitrogen of the blood amounted to eighty-one mg. instead of the normal 15-20 mg. Ambard's coefficient is correspondingly high, or .13 instead of the normal .06 to .07. There must be, therefore, a damming back of nitrogenous substances in the body which the kidneys were unable to remove. The diet should theroretically be one free from nitrogenous material. But, as you remember, a normal adult excretes 5-6 gms. nitrogen per day. If the diet does not contain this amount of nitrogen, then the body tissues are drawn upon for the balance. Nothing was to be gained in this case by going below the minimum nitrogen requirement which was about 20 gms. protein. He was, therefore, given 22 ounces of milk per day, six ounces of water and after three days vegetables were added. He was kept on this mineral protein diet until the urea nitrogen of the blood and Ambard's index were normal and then the protein was slightly increased.

As a basis for increasing the protein and salt in the diet as well as a quantitative measure of renal function, the test meal suggested by Hedinger and Schleyer[7] and modified by Mosenthal[8] was used in this case. Known amounts of nitrogen, salt and water are given in the day's diet and the amounts excreted determined. The diet as outlined includes 85 gms. protein (13.4 gms. nitrogen) 1760 cc. of water and 8.5 gms. salt. The urine is collected in two-hour intervals during the day and a twelve-hour interval at night. No liquid or food is allowed between the meals.

The findings are given in table II and were made three months after table I.

TABLE II.

Results Obtained with Test Meal for Renal Function

Time	Urine cc.	Spec. Grav.	NaCL		Nitrogen	
			Per cent	gms.	Pct.	gms.
August 10	39	1023				
October 12	66	1015				
February 2	93	1008				
February 4	68	1015				
April 6	57	1025				
June 8	37	1020				
Total Day	360	1018	.87	3.12	.72	2 60
Night	375	1018	.55	2 05	1.01	3.80
Total 24 hr	735			5.17		6.40
Intake	1760			6.65		13.4
Balance†	+1025			+1.48		+7.0

Case 536. In this case the fluid intake shows a positive balance of 1025 cc., the salt a positive balance of 1.48 gms. The positive nitrogen balance of seven grams is not abnormal for a convalescent growing boy. It is, of course, an indication of a storing up of nitrogen to build up the protein tissues.

Instead of keeping our patient on a low protein diet as might otherwise have been necessary this functional meal showed that after three months he could handle a goodly amount of both protein and salt. They were, therefore, systematically increased, much to his relief and to the convenience of the household.

Case 551. A boy of ten had been taken suddenly ill four weeks before with "sore throat and cold" and had a temperature of 104.5°. After a week he improved but ran a daily temperature of 101° to 103°. During the third week the urine became smoky and gradually changed to red. He was seen in consultation with Dr. F. M. Brooks on the thirtieth day after the onset.

He was well developed but anemic looking and with poor tissue turgor. Pulse was 48. Heart extended eight centimeters to the left of the median line. The first sound at the apex was replaced by a loud blowing systolic murmur, and the pulmonic second was doubly accentuated. There was practically no edema over the tibiae but considerable edema of the back, buttocks and scrotum. The urine contained albumin and casts, many leucocytes and a moderate amount of oxyhemoglobin. The routine hospital laboratory report of many pus cells made this appear a possible case of pyelitis. The blood and urine findings are presented in table III and the results of the functional meal in table IV. It will be noted that there was a negative salt balance. This is accounted for by the fact that the edema was at this time decreasing.

TABLE III.

Case 551. Acute Nephritis.

Date	Blood			Ambard's Index	Urine			
	pH.	Urea N. per 100 cc.	Alkali Res.		Amount cc.	Urea N. in 24 hr.	Total Nitrogen	NaCL
		gm.				gm.	gm.	gm.
February 20	7.7	.013	53	.07	2185	6 47	7.9	10.7
March 2	7.6	.0129	51	.068	1045	4 89	6.03	13.58

TABLE IV.

Case 551. Results Obtained with Test Meal for Renal Function February 26.

Time	Urine cc.	Spec. Grav.	NaCL		Nitrogen	
			Pct.	gms.	Pct.	gms.
8-10 A. M.	191	1006				
11-12	157	1010				
12-2 P. M.	124	1018				
2-4	122	1018				
4-6	none					
6-8	239	1014				
Total Day	833		.91	7.60	.52	4.35
Night	900	1016	.56	5.05	.43	3.90
Total 24 hr.	1733			12.65		8.25
Intake	1760			7.75		13.4
Balance	+27			-4.90		+5.15

The amounts excreted and their relative specific gravities give a fairly accurate estimation of the functional power of the kidneys. If in addition to this the amount and percentage of the salt and nitrogen excreted be determined, the amounts of these to be added to the diet are more definitely known. Without any medication but on a diet, whose protein and salt contents were compatible with the excretory power of the kidneys, the patient improved steadily.

A broad view of renal-function tests in children reveals certain inherent handicaps. Laboratory workers generally are coming to consider urea nitrogen of the blood and its alkali reserve as the most essential tests in the diagnosis, prognosis and treatment of acute nephritis. In children between the ages of one and one-half and seven years it is at times difficult to obtain sufficient blood for these tests. The phenolsulphonphthalein test and alveolar CO_2 tension stand second in importance but have the advantage of being applicable in cases where the former tests are not.

As a measure of acidosis the "alkali tolerance" test of Sellard[9] and Palmer[10] stands third but is of value only when renal function is normal. If there be retention the alkali is retained. As a measure of renal impairment the test meal of Hedinger and Schleyer comes next. It requires accurate measurement of food intake and careful two-hour collection of urine. This means a special nurse or else a mother who understands the scientific value of the work undertaken. Where blood cannot be conveniently obtained with children old enough to obey instructions, valuable information is given thru this test, followed by the percentage estimation of chlorides and nitrogen excreted.

SUMMARY.

Short biochemic tests are now available, by means of which degrees of renal impairment may be determined. A review of the ones clinically applicable is given here.

Where blood can be obtained, the estimation of its urea nitrogen gives data of immense importance in diagnosis, prognosis and treatment. Where the blood cannot be obtained, the phenolsulphonphthalein test can usually be applied.

Acidosis can be diagnosed early and its degree measured by determining the alkali reserve of the plasma. The alveolar CO_2 tension stands next in importance. Acetonuria may or may not accompany acidosis.

In selected cases the test meal for renal function gives valuable therapeutic data.

Two cases are presented which illustrate the value of a thoro laboratory investigation of the acute nephritides in children.

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814 Corbett Bldg.

DIAGNOSIS AND TREATMENT OF PYELOCYSTITIS IN INFANCY.*

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It is peculiar that to the majority of general practitioners pyelocystitis in infancy is almost an unknown condition. This is repeatedly brought to the mind of the pediatrician and time after time a child, who has been sick several weeks, even months, with a high irregular temperature and no other involvements to be noted, shows on examination of the urine large quantities of pus. If the condition were a rare one we could explain this lack of knowledge, but of the acute febrile affections of infants it must rank among the first five or six in point of frequency, and it is, therefore, of great importance that due attention be paid to it.

Probably the chief reason that this condition is not recognized more frequently is that the symptoms, as a rule, do not point to the urinary tract. The onset is usually sudden with high rise of temperature and little else. Urination is not noticed to be more frequent nor is the urine irritating. In fact, the chief characteristic aside from high fever is almost entire absence of physical findings. This is so marked that it alone should lead one to think immediately of urinary infection.

Following the onset with sudden rise of temperature, the fever continues usually quite irregularly. Various types may be mentioned. We have in some instances the high continuous type of temperature, ranging from 104° to 106°, never dropping. This may lead in a few days to death. An example is the following:

A girl baby, age 10 months, was seen by me on the afternoon of the twenty-third of November. Six days previously the mother had noticed that the child was not well; fever was observed but no other symptoms. The following day the child became much worse, a physician was called who diagnosed gastrointestinal disturbance; the following day the child showed no symptoms except the temperature which ranged from 104° to 106°; she was very apathetic; the stools, two to three a day, contained some mucus and curds, probably due to cathartics. With this exception the history was negative. On very careful examination no physical findings were to be met except those which go with a severely toxic infant with a temperature of 104° to 106°.

On the evening of the twenty-third of November she entered the Presbyterian Hospital, where she died early the morning of the twenty-fifth. During her stay in the hospital the temperature ranged between 103.2° and 106°; during the last twenty-four hours it never dropped below 104°. The blood count showed 3,800,000 reds, 70 per cent. hemoglobin, and 21,700 whites. On examination of the urine there was found albumin and a number of pus cells, 10,200 on the first count and 17,000 on the next day.

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Much more characteristic is the febrile curve, where it is one which shows a marked tendency to rapid rises and falls. It is not uncommon for the temperature to rise from normal to 103° or 104° within a very few hours; then drop just as rapidly. This is of such common occurrence that a history of rapid rises and falls in temperature with lack of physical findings speaks very strongly for pyelocystitis.

In observing cases in the hospital it is often seen that the temperature will remain almost within the normal limit for several days and sometimes several weeks, then without any reason which can be noted it will show a sudden rise, then fall again to its former limit. Almost always, at the times when the temperature rises, there is found to be an increase in the cell count of the urine. The course of the temperature curve is usually a fair index of the prognosis of the case in acute stages. As the temperature reduces, the quantity of pus in the urine, as a rule, becomes less.

Of the physical findings which accompany this disease and which are so few, those of the skin are perhaps the most important. At the time of the onset, or soon thereafter, and usually during the acute stages, there is a distinct pallor, in all probability due to vasomotor constriction of the peripheral vessels. There is a marked tendency to a dry, sometimes scaling, skin, and it is not infrequent to see transient erythematous reddening more or less generalized.

Again, not uncommonly in the course of this condition there is found to be a slight but distinct reddening of the pharynx which may lead to a slight dry cough. As a rule the gastrointestinal symptoms are of slight degree, tho the condition, of course, may lead to a state of marasmus of a character very resistant to treatment. Usually during the acute febrile stage there seems to be an increased number of stools which are frequently green in color and may contain curds and mucus. Vomiting at times is a symptom but cannot be regarded as characteristic. Sometimes, when the condition is a severe one, it is possible to palpate the lower poles of the kidneys. This, of course, is more frequently found true on the right side. This palpation is at times painful and as a result of the tenderness the legs are held flexed on the abdomen.

Of prime importance is the examination of the urine. In the very early stages, in all the cases which I have seen, pus is not present but a distinct bacilluria exists. Within twenty-four to seventy-two hours the pus makes it appearance and is usually present in large amounts. In determining the presence of pus in these cases it is never necessary or even wise to resort to the centrifuge. A few drops of urine placed on a slide under the microscope are sufficient to confirm the suspicion as to the presence of infection in the urinary tract. In order to follow the course of the disease more or less roughly and to determine the prognosis, it is of value to count the number of pus cells. This may be done with the usual Thoma-Zeiss hemocytometer slide in much the same way as the white cells of the blood are counted. The white blood corpuscle pipette is filled up to "1" with the diluting fluid (2 per cent. acetic acid); the pipette is then filled up to 11 with urine. The entire field is counted, 9 large squares, the number multiplied by 11/9 which gives the total number of pus cells per cubic millimeter.

I have found this method of much value in determining the progress of the treatment, and feel that in a general way it may be depended upon. There are several theoretical objections to this procedure, but from a practical standpoint it is, I think, of value. Albumin is found during the acute stages, due probably to the pus or to the bacilli. In the more chronic stages, after the condition has lasted for some weeks, it is not infrequent to find red blood cells in small numbers and some casts in the urine.

On examining bacteriologically the causative organism in far the greatest number of cases is found to be the colon bacillus; occasionally streptococci and more often staphylococci are found. It is of a great deal of value in the treatment to determine the nature of the organism. In case this is not done it is fair to assume that it is due to the colon bacillus until it is proven otherwise. I recently had a case in a newborn infant caused by the bacillus pyocyaneus.

Pyelocystitis is usually looked upon as a condition which, tho running a high temperature, gives an almost absolutely good prognosis. My experience with these cases has been quite to the contrary. While it is true that a large proportion do recover without serious consequences, it is also true that a very great number have repeated attacks of the infection and that not a small proportion of these infants succumb to the disease, either in the acute stages or later. It is not to be regarded, in my opinion, as a condition which is to be looked upon lightly by the profession, and I would strongly urge that more attention be paid to the early diagnosis, since, as a rule, the results to be obtained bear direct relation to the time after onset when the diagnosis is made.

Death in these cases may occur soon after a very acute onset, such as the case previously mentioned, or the condition may become subchronic, existing for several weeks, the infection spreading and the child gradually succumbing to a sepsis. Or the condition may so deplete the infant's organism that a marasmus of parenteral nature is produced and the child succumbs to some intercurrent infection. Much more likely than a fatal termination is the tendency to repeated attacks, and no man who has seen many of these cases but is impressed with the fact that, no matter how thoro the treatment may be according to the lines laid down at present, repeated attacks are very common.

The attacks, as a rule, tend to become less severe but one can never feel satisfied that a case of pyelocystitis is effectively cured and that there is not present at least a tendency, probably a focus of infection, which will result in a second, a third or more attacks. How long this can last I do not know. We have a definite record of one case which entered the Presbyterian Hospital five years ago, has been back repeatedly since, and at last accounts showed many pus cells in the urine and the condition was such that we were unable to produce any effect from our treatment.

It would seem to me not at all unlikely that some cases of pyelocystitis of pregnancy might be due to this condition, and that the infection existed with repetitions, the nature of which had not been recognized during the intervening years.

The danger of a chronic nephritis resulting from pyelocystitis in infancy is relatively slight. Of 73 cases of chronic nephritis in infancy and childhood which Heubner was able to collect from his records (of 17,000 cases), only six were due to pyelocystitis, in his opinion.

Pyelocystitis is to be differentiated from all the other acute febrile conditions of infancy. In certain of its phases it may closely simulate almost any of these. In acute stages, where we have a sudden rise in temperature, often quite marked prostration with rapid breathing, the general symptoms are very similar to those of an acute intoxication which we see at the beginning of summer diarrhea. The chief points in differentiation, however, are that in this latter condition there is almost always present a severe watery diarrhea. In nearly every instance, too, the cerebrum is more clouded and there is a greater degree of prostration. While it is true that in the early stages of pyelocystitis the urine may show little or no pus, there is always present a large number of bacteria, usually somewhat motile, in other words, colon bacilli. The white count is more likely to be very high in pyelocystitis, tho this is not a strong differential point.

Pneumonia differs from pyelocystitis principally in the lung findings, which are rarely absent even in the earliest stages. The child is apparently in more distress and the respiration is more labored, altho the rate may not be essentially different.

Perhaps the most difficult for differentiation is otitis media. The history of a preceding involvement of the nasopharynx as manifested by acute coryza is often distinctive, but a large proportion of cases of pyelocystitis will show a reddening of the pharynx. Examination of the ear drum would seem to be conclusive evidence, but I am persuaded that there are many failures in the diagnosis of otitis media in infants and frequently it requires an expert to be able to tell the difference between acute congestion from crying, etc., and true middle ear inflammation. The finding of pus in the urine is, of course, conclusive evidence.

Tonsillitis, too, offers some difficulty, in view of the fact that very frequently in acute stages of tonsillitis there is increased cell content in the urine. It is also very difficult in young infants to get a good view of the tonsils at times.

Other acute infectious disorders, such as anterior poliomyelitis, measles, scarlet fever, etc., may for a short time offer some difficulty. In older children, where there is pain in the pelvis of the kidney, due to acute inflammation, not infrequently the mistake in diagnosis of appendicitis is made, but the difficulty in differentiating this condition does not lie altogether in the acute febrile stage. When the condition has assumed a chronic or semichronic course, due in nearly every instance to failure in early diagnosis, its vague symptoms of discomfort, failure to gain weight, marasmus, slight gastrointestinal disturbance, etc., which in themselves do not suggest any involvement of the urinary tract but which are nevertheless secondary to such involvement, as is evidenced by the fact that there is a betterment following the diagnosis and treatment of pyelocystitis, it is these cases which really offer the difficulty. This rests not so much on the difficulty in diagnosis as upon the fact that there is nothing in the condition of the patient which points to the seat of the disturbance and it is only by routine examination of the urine, a thing which is not ordinarily done with infants, which reveals the true nature of the disturbance. One should always be suspicious of an infection of the urinary tract when, after days and weeks of normal or nearly normal temperature, the child suddenly shows a rise of temperature to 103° or 104° with just as sudden fall. As mentioned before, examination in these instances will often show an appreciable amount of pus in the urine.

TREATMENT—In order that one may use the most effective means for overcoming the infection, it is necessary that the infecting organism be known. In the majority of instances this is the B. coli. As is well known this organism does not grow well in an alkaline medium. The treatment which has proved most effective in my hands during the acute stage consists in giving large quantities of alkalies at frequent intervals. To a young baby under six months of age one should give a mixture of 10 grains of soda bicarbonate and 10 of potassium citrate every two hours. This should be continued night and day, as it is of paramount importance that the urine be rendered alkaline as soon as possible and be kept strongly alkaline.

The effect of this upon the urine may be determined by placing a piece of red litmus between the folds of the diaper. If the diapers are changed frequently, that is, before decomposition of the urine can take place, it is possible to tell how soon the urine becomes alkaline and whether it remains so or not. In case the quantity of alkali given is not sufficient, the dose should be immediately increased. This treatment should be kept up for from four days to a week, depending to a great extent upon the quantity of pus in the urine and the temperature curve. After the temperature has subsided and the quantity of pus in the urine appreciably reduced, one may stop the alkalies and give hexamethylamine to the amount of 3 to 5 grains four to six times a day, depending upon the age of the infant. During the first twenty-four hours it may be wise to give acid sodium phosphate until the urine becomes acid, since the hexamethylamine acts only in an acid medium.

If possible one should test the urine to see if formaldehyde is present. Occasionally a case is seen where no formaldehyde is found and there is no inhibitive action of the hexamethylamine on the infection. In these cases salol is frequently of value. It is necessary that the urinary antiseptic be kept up over a long period, even after the pus has practically disappeared from the urine. The condition shows such a marked tendency to recur that it is only by this means that we are able to overcome the infection.

In the more chronic stages of the condition I have used autogenous vaccines in some of the cases in an attempt to overcome a chronic infection, but in none of these have I been successful. In others, after the infection had been apparently conquered, a course of autogenous vaccines was given in order, if possible, to prevent recurrence, but this has been so frequent that I have abandoned their use. One should always remember that the condition, especially in young infants, is accompanied by more or less nutritional disturbance and careful attention to diet and hygiene are necessary.

IMPORTANT PHASES OF THE ALLEN TREATMENT FOR DIABETES.*

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An exposition of the routine Allen treatment would be useless in this paper. Joslin[1] describes the complete treatment exceedingly well in his recent book to which all are referred. However, it seems of definite value to comment on some of the high lights of the Allen treatment and to emphasize a few of the valuable points established by the great volume of recent research, stimulated by the work of Allen, as well as to offer some personal ideas formed thru study of many diabetics in several of the medical centers of the East and on about thirty seen in private practice during the last year. Thus the writer hopes to make the routine treatment, which is well known to most physicians today, more successful in the severe cases seen in routine practice.

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* Read before the Sonoma County Medical Society, Nov. 8, 1917.

It seems best to group the ideas of the writer under the following headings:

(1) *Complete physical examination is necessary.* The fasting treatment should always be preceded by a complete physical examination. Skin infections, as well as all other foci of infection, must be discovered and cleared up, since acidosis is more likely and food tolerance lower where infection is present.

Routine Wassermann reactions ought to be made. Warthin[2] believes that syphilis is responsible for more cases of diabetes than we ordinarily imagine. Rosenbloom[3] emphasizes this same idea. As yet, however, no definite improvement in diabetes has been recorded as a result of luetic treatment. Four of my private cases seen last year had positive Wassermanns. One patient has had a great increase in tolerance, possibly due to antiluetic treatment, tho exceedingly severe pyorrhea has been cleared up since diabetic treatment was instituted.

Careful examination of the body for tuberculosis should be routine moreover, since diabetes favors this infection. One of my private cases had advanced tuberculosis as well as syphilis when first seen, thus making diabetic treatment useless. Arteriosclerosis occurs frequently and it is this condition which leads on to gangrene. One case came to me with the left foot amputated due to gangrene and she had beginning changes in the right foot. She has been kept sugar free and as yet the right foot has not been lost, tho arterial changes are most marked. Often times, as Robin[4] recently pointed out, diabetes complicates cancer of the gastrointestinal tract. Heart and kidney abnormalities as well as central nervous system affections must also be in mind. It is evident, therefore, that a thoro physical diagnosis is most important in all cases of diabetes.

The severity of diabetes is at times necessary to determine. For this purpose, the tolerance tests recently described by Addis[5] have proved most satisfactory to the writer.

(2) *Individualized treatment for each patient is important.* The physician should be able to vary the routine Allen treatment to suit the individual case. Severe cases must be in a hospital, where accurate records by reliable nurses are kept and where there is a trained dietician. Moderate cases can be ambulatory; however, they must report daily to the office while fasting, save twenty-four hour specimens of urine and thus be watched carefully for acidosis. Rarely cases must not be fasted because of weakness or infection. Fasting, where acidosis is present or develops, should be intermittent as described by Joslin. My cases have received practically no soda or alcohol during their treatment. However, as Joslin says, soda must be given in alarming cases of acidosis. In fact, recent observers[6] seem to show on increased sugar tolerance when soda is given in large doses. Until this is proved, however, the simplest plan is to give practically no soda. Allen rarely uses alcohol now, and Joslin has never used it to any extent. However, in very severe cases, where the tolerance is limited to seven or eight hundred calories, it might be of use. Whiskey, if used, must be carefully tested for sugar, as the writer found in the one severe and unsuccessfully treated case he has had during the last year. It is, therefore, obvious that the treatment must be varied according to the case.

(3) *Patients must learn the approximate caloric values of foods and must never exceed their tolerance.* The patients, who learn the caloric values by weighing their food and estimating the grams of carbohydrate, fat and protein ingested, finally gain the power to judge the weights and the caloric value of food without scales or food tables. They are able to eat most of the ordinary food served, always taking the proper amounts. Moreover, they are the patients who are finally able to care for themselves completely. Of my patients one especially has developed this ability. He eats in any restaurant or club, always carrying some bran biscuits in his pocket. His tolerance is very low but he is perfectly comfortable and well, remains sugar free continually thru his own care, and carries a big business on his shoulders.

Continually eating the proper food within his tolerance is the most important part of the treatment for any diabetic. It is our hope that the weakened metabolism may be strengthened after several years, if necessary, of rest brought about by undernutrition.

(4) *The weight of the patient must usually remain below normal.* It is often necessary to reduce the patient's weight far below normal in order to destroy acidosis and glycosuria. The common observation that thin people are the longest lived should be consoling to diabetics. Besides, it is futile to try to increase their weight by over

feeding, since the characteristic feature of the disease is loss of weight. Food eaten only builds tissue and gives strength to the extent that it is metabolized. The weakened pancreatic function of a diabetic may be able to metabolize very well for a weight of 150 pounds but not at all for 250 pounds. Excessive food can not be used and is a real poison to the body, in that ketogenic bodies and excessive sugar are produced in the tissues and blood. Thus practically all diabetics should be below normal weight and no steps should be taken to increase it unless it is more than 15 per cent. below normal, and some severe cases must be even further than that below normal in order to live.

(5) *Excess of food is harmful.* Undernutrition is the keynote of the Allen treatment. It spares the weakened metabolism of the body, increases tolerance, destroys ketonuria and helps assimilation of foods. Moreover, too much protein and fat are as harmful as too much carboydrate. Mosenthal[7] firmly believes in these ideas, stating that he gives 1600 calories to small people and 2000 to larger ones and, when the tolerance is high enough to stand more calories, he increases the carbohydrate intake as fast as the tolerance permits.

Weakness felt by some patients is due in many cases, where the caloric intake is 2000 calories, not to deficient nourishment but to lack of exercise. Williams[8] recently has shown that undernutrition does not decrease physical vigor of diabetics, while overfeeding results in serious loss of strength. Food which is not metabolized gives no strength.

(6) *Careful studies of acidosis are essential.* Many factors favor acidosis. Joslin mentions ether, vulnerable kidneys, infection, excitement, fat-protein diet, and a diet inadequate in salt content. Moreover, the fasting treatment may bring alarming and severe acidosis.

Thus the diagnosis, prevention and treatment of acidosis is most important. This subject has been thoroly discussed in a recent article by the writer.[17] I feel it necessary tho to again emphasize Henderson's[9] assertion that we cannot depend on urinary findings in diagnosing acidosis. This is shown by recent reports of fatal cases of coma, where acetone and diacetic acid were absent in the urine, which confirm such findings in former literature.

(7) *Exercise is most important.* Exercise shortens the initial fast and produces physical strength in the latter treatment. Tolerance, thus, is increased, due to the fact that exercise burns carbohydrate. Ketogenic bodies are also consumed. Exercise should only be restricted where the heart is weak or where coma threatens.

(8) *Treatment necessitates self-denial and will power.* Patients must realize the danger of breaking their fast or disregarding their limitations of diet. Physicians can aid in this matter, to a certain degree, by having fortnightly or monthly reports sent by the patients concerning their diet and urinary findings. The requirement of Allen that every patient must be continuously and absolutely sugar-free should be insisted on.

For patients who persist and are faithful in the treatment there is definite hope for improvement. Naunyn and von Noorden have long thought diabetics may recover. Moreover, Allen believes that diabetes is due to a functional weakening of the pancreatic activity and that rest of that activity even over a period of several years may strengthen it possibly to a cure. This idea receives support by the recent calorimetric researches of Joslin,[10] and DuBois and Allen[11] which have shown that even the severe cases retain power to utilize part of the carbohydrate of their diets, and that this ability increases as treatment continues.

But even with the prospect of health and normal activity ahead of them, some patients are unable to persist in the treatment. One of my young patients recently, who became sugar-free without the development of acidosis and who developed an excellent tolerance, failed again and again to deny himself extra food and finally the task had to be abandoned because of his indifference and lack of will.

A most tragic case occurred a few months ago. A young girl of twenty-two came to me nearly in coma, was made sugar-free and finally obtained a high tolerance. She returned to work and ordinary life for two months. Then she was persuaded by Christian scientists to ignore all medical treatment. In two weeks she died in coma. This girl wanted to get well, but being in contact with Christian scientists and away from my supervision, she accepted their promises for a cure.

(9) *Environment, habits and mental attitude must be controlled.* Happy, tranquil and congenial surroundings, as well as a life reasonably free from worry and agitation, are most necessary. Recreation, ambitions and even the home life of a patient must be investigated and controlled by the physician. Moreover, the patient should work no

longer than eight hours daily, which has been shown to produce the most efficiency even for perfectly sound men.

Results. Certain unsuccessful cases are occasionally met with. Joslin has divided them into those due to (1) incomplete treatment, (2) intercurrent infections and (3) diabetes of long standing. The writer has had one uncontrollable case during the last year, whose tolerance was limited to 600 calories obtained from fat, protein, and about 1 gram of carbohydrate, her weight being only 90 pounds. She had syphilis as well as diabetes. Finally, some months after she left me, she was admitted to the University of California hospital and died in coma. Possibly, if I had been content with even a lower weight and a caloric intake of 700, she might have lived. One case was first seen in coma and died soon afterwards. One other case had a heart lesion for which nothing could be done and another syphilis as well as an advanced pulmonary tuberculosis.

All of my other cases seen during the last year have been markedly improved. Complications, such as cystitis, pruritis, carbuncles, failing eyesight, arteriosclerosis and gangrene, have usually been improved. One recent case of carbuncle, most extensive in degree which had been present for several weeks when I first saw it, has recovered under the Allen treatment, together with efficient surgical attention. All patients have a sense of well-being, increased strength and improved health.

In literature numerous instances of remarkable results in diabetic treatment are recorded. The most notable of these are those of Geyelin and DuBois[12], Jonas and Pepper[13], and Christie[14]. Joslin[15] has brought out the fact that pregnancy is safe in diabetics controlled by the fasting treatment. Surgery without ether anesthesia is also safe, when the diabetic is controlled and when patients are prepared by giving large doses of alkali for several days before the operation. Diabetes in children responds to the fasting treatment but, as Greeley[16] emphasizes, the patients must be carefully watched, especially when any infection whatsoever develops, since their tolerance is very apt to decrease rapidly.

Thus the benefit derived from intelligent and persistent application of the Allen treatment for diabetes warrants its universal use by all physicians who have mastered its essential principles.

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NOTES ON THE WASSERMANN TECHNIC.

By H. Wehrbein, M. D.
BUTTE, MONT.

From the Butte Wassermann Laboratory.

The outstanding feature of the Wassermann test is its lack of specificity. All the other complement fixation tests are based on the presence of a specific antibody which corresponds to the antigen used and is so able to fix the complement. In the Wassermann test the fixation of the complement is apparently caused by an excess of lipoids or similar substances in the serum; it is, therefore, essentially a quantitative test and all the demands of a quantitative analysis have to be complied with in its performence, specially a rigid titration of all the reagents used.

The classic method, while giving quite satisfactory results when performed with strict adherence to the original technic, disregards one important factor, viz., the presence of natural sheep amboceptor in the human blood. To overcome this difficulty Noguchi uses an antihuman system. Others have the natural amboceptor absorbed thru a sheep cell emulsion before the test is performed and still others titrate the amount of natural amboceptor present and figure it in the final test.

After much experimenting we have worked out a method which is as exact as possible and still does not consume too much time. We considered that not only do the individual sera differ as to their natural amboceptor titre, but they are also anticomplementary in a different degree. In other words, a complement carefully titrated without serum will effect hemolysis irregularly with different sera added, even if there is no natural sheep amboceptor present.

On the other hand, the titration of the complement which precedes the titration of the natural sheep amboceptor consumes at least one hour of valuable time without giving the assurance of having attained a final estimate as to its relative value. We test, therefore, the complement as to its activity with the individual serum present. This not only gives us an accurate measure of the natural sheep amboceptor, but also indicates the exact balance of the hemolytic and antihemolytic factors as a whole. The tabulation of our initial titration looks like this:

Tube No.	Complement 10 per cent.	Serum to be tested	Amboceptor 1 C. C.—1 unit)	Blood emulsion 2.5 per cent.
1	0.2	0.2	..	1.0
2	0.4	0.2	..	1.0
3	0.6	0.2	..	1.0
4	0.8	0.2	..	1.0
5	1.0	0.2	..	1.0
6	1.0	0.2	0.2	1.0
7	1.0	0.2	0.4	1.0
8	1.0	0.2	0.6	1.0
9	1.0	0.2	0.8	1.0
10	1.0	0.2	1.0	1.0

If there is not sufficient serum for this titration, we employ the Mueller drop method and then the titration looks like this:

Tube No.	Complement 20 per cent.	Serum to be tested	Amboceptor 6 drops 2 units	Blood emulsion 20 per cent.
1	2 dr.	1 dr.	..	1 dr.
2	3 dr.	1 dr.	..	1 dr.
3	4 dr.	1 dr.	..	1 dr.
4	5 dr.	1 dr.	..	1 dr.
5	6 dr.	1 dr.	..	1 dr.
6	6 dr.	1 dr.	2 dr.	1 dr.
7	6 dr.	1 dr.	3 dr.	1 dr.
8	6 dr.	1 dr.	4 dr.	1 dr.
9	6 dr.	1 dr.	5 dr.	1 dr.
10	6 dr.	1 dr.	6 dr.	1 dr.

In the final test we use the reagents one step higher than the titre. For example, if the titre of the serum with the complement and the amboceptor is represented by tube No. 6, we use the amounts of tube No. 7 in the final test. The advantages of this system are apparent. Everything is taken into account and the time consumed preparatory to the final test does not need to exceed one hour after the serum is inactivated. About the inactivation I would like to say that we do not inactivate longer than fifteen minutes, and this measure is more intended to destroy anticomplementary bodies than the complement itself, which we can take into account thru the titration. But as most of our samples come from out of town and in consequence are not fresh, we made it a routine measure to inactivate all sera for fifteen minutes at 56°.

The Mueller drop method, which may to many appear to be rather approximative, can be made very exact by using properly made pipettes. An additional assurance of accuracy is the use of the same pipette for the same reagent; so, the pipette which has been used for the preliminary titration is used again in the final test. I really fail to see how so the Mueller method can be any less accurate than the use of graduated pipettes.

I would like to say a final word about the usual titration of antigens. In no part of the test has the serologist to be more exact and accurate. If he by accident uses a positive serum with no natural sheep amboceptor and a negative serum with a considerable amount of natural sheep amboceptor, the difference between the complement fixing and anticomplementary amount of the antigen will not be only amiably large but also a source of many disagreeable errors in the future. If he trusts to the anticomplementary titre, determined thru a negative serum with much natural sheep-amboceptor, he is bound to get once in a while weak positives with negative seras which do not contain any natural amboceptor. It is, therefore, of importance to balance evenly the system with each individual serum, and specially so when the antigens are titrated.

The practitioner, on the other side, ought to be informed well enough to interpret the reports he gets from the laboratory. He specially ought to keep in mind that a two plus or one plus report does not mean anything, if there are not conclusive symptoms or a history of leutic infection. Nobody deplores more the contradictions in reports than the laboratory man and he will do his best to avoid instances of the kind. But, on the other hand, the practitioner must read his reports with discrimination.

Trichinosis.—A report of three cases simulating meningitis with the findings of trichina larvae in the spinal fluid is given by Jacob Meyer, Chicago (Journal A. M. A., March 2, 1918). The patients were all members of the same family, two girls and a boy, all in the contagious disease department of the Cook County Hospital, Chicago, and in all three the meningitic symptoms were present and in two of them trichina larvae were present in the spinal fluid.

NORTHWEST MEDICINE
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MARCH, 1918.

EDITORIAL

BY THE PEOPLE.

Let us cherish in our hearts those undying words of Abraham Lincoln, the first American to reach the lonely heights of immortal fame. Take his message, carry it and proclaim it broadcast thruout the Nation; help our people to realize the patriotic duty resting upon them, each and all, as free-born citizens of this great democracy. Let them highly resolve that "government of the people, by the people, and for the people * * * shall not perish from the earth."

We face the most stupendous task in the history of the nation. Never before has such danger confronted us. Everything we have ever fought for—from Bunker Hill to Santiago—is at stake, and it is conceivable that the final *victory will be won because of our contributions of food.*

EXERCISE FOR MIDDLE AGED AND ELDERLY MEN.

A recent story in the *Saturday Evening Post,* by the author of Skinner's Dress Suit, tells how a group of elderly salesmen and clerks, who were threatened with discharge, rejuvenated themselves by the simple expedient of joining a Y. M. C. A. gymnasium. By one of those magical and delightful transformations which are to be found only in works of fiction, they became young again almost over night. Smooth shaven faces replaced straggly whiskers of the days of yore. Neat, well-fitting, youthful clothes superseded ancient and baggy garments. Polished shoes induced the springy gait of youth and, not least, an intellectual renaissance appeared that made these men the equals in sprightliness and activity of the youngest of their associates without the loss of the balance wheel which comes of experience and long years of labor.

The misfortune is that such transformations are not in line with truth. It is quite likely that this story will do harm for, if elderly men attempt to follow the example suggested, some of them will come to grief. There is no earthly reason why an elderly man should not dress youthfully if he so wishes, altho in the end he will probably derive no advantage therefrom, for the garments of adolescence are ill-suited to the wrinkled features and white hair of senescence or presenescence. But when an elderly man suddenly attempts vigorous exercise in the Y. M. C. A. or other place, he is quite as likely to cause dilatation of the heart or rupture of a cerebral blood vessel as he is to find himself growing hard and athletic. Yet the story is in line with conditions that have amounted in the last few years to a fad. Quite commonly one reads of a successful but worn out business man, whose sagging cheeks and heavy gait were replaced by the bloom and springiness of youth thru the activities of some Muldoon or McFadden. All Y. M. C. A. gymnasiums and many other athletic clubs have classes of men who have passed their first youth, engaged in active exercise. Some of the members derive benefit therefrom, many try the work for a short time and find they are incapable of the strain, while a not inconsiderable number are rewarded by increased fatigability and a small number by cardiovascular disasters.

If a man has always exercised, he will doubtless benefit from continuing such activities, especially if they replace work. But if he gets up earlier in the morning or works later at night at his regular business in order to find time for exercise, more harm than good will result. If he has taken no exercises for fifteen or twenty years, to resume them actively is to endanger his life. For the elderly man such exercises as billiards or walking are to be commended. Perhaps better than any other is golf, which is played in the open air and which may be leisurely followed. Even golf can be indulged in too strenuously. Conservatism in exercise is as important as in other affairs of life and he who thinks he will regain youth by engaging in violent exercise, such for example as volley ball, is quite as likely to gain instead a wheel chair and a special attendant to push it around for the rest of his life.

VOLUNTEER MEDICAL SERVICE CORPS.

There are many physicians in our country who, by reason of slight physical infirmities or being past the age limit of fifty-five years, are unable to engage in active work in camp or in the war zone. In order that these and all other patriotic physicians who remain at home may come in close relation with government needs at this time, the Council of National Defense has organized the Volunteer Medical Service Corps. This is the result of an agitation along this line last summer in Philadelphia, attended by prominent representatives of the profession. It is intended that this new corps shall be an instrument directly to meet such civil and military needs as are not already provided for, such as medical service in hospitals, colleges and laboratories, examination of drafted soldiers, the conservation of the health of families and dependents of enlisted men, the preservation of sanitary conditions. All these things must be attended to in spite of the number of men called to field and hospital service.

It is proposed that services rendered by this corps shall be in response to a request from the Surgeon General of the Army, the Surgeon General of the Navy, the Surgeon General of the Public Health Service or other authorized departments or associations, the general administration of the corps being vested in a Central Governing Board, a committee of the General Medical Board of the Council of National Defense. The State Committee of the Medical Section of the Council of National Defense constitutes the Governing Board in each state. Physicians intending to join should apply by letter to the Secretary of the Central Governing Board of the Council of National Defense, Washington, D. C., for a printed application form. The name and data of the applicant will be submitted to the executive committee of the State Governing Board, but the final acceptance of members will be by the National Governing Board. An appropriate button or badge is to be adopted as official insignia. Every patriotic physician of the Northwest who is obliged to remain at home should make an application for membership in this corps.

A NEW WAR SPORT FOR PHYSICIANS.

Gentle reader, have you noticed an amusing and instructive effect of the war on the votaries of some of the cults, especially christian science? Have you observed that a number of its followers have suddenly discovered that they have real, old-fashioned diseases which render them incapable of bearing arms in Uncle Sam's Army? Have you had any of them call on you for an affidavit certifying that the bearer is the victim of some chronic disorder which for from one to ten years he has believed to be due to "error" but which he has suddenly discovered really exists after all? If you have not had this experience you are, to paraphrase Weber and Fields, "one of the unlucky ones," for you have been deprived of one of the higher delights of medical practice. And if it happens that the delight has but been delayed, try the experiment of insisting on exact and specific answers to inquiries as to symptoms which as a christian scientist your applicant deemed non-existent. If for several years you have heard that the convulsions which *you* thought occurred were really only a figment of *your* distorted fancy, ask when they returned and how many of them the applicant has had. Or if, perchance, you have been in error to the extent of believing that he suffered from rupture which you wanted to cure in the only way that all good ruptures want to be cured, ask when he discovered that maybe you were right after all. You will derive much pleasure and information along psychologic lines therefrom, tho to be sure the sex and age limitations of the draft will considerably lessen the possibilities of instruction, not to say pleasure from the experiment which, could it be conducted on a sufficiently large scale, would contribute to the joy of nations. There is but one caution to be observed in the experiment and that is that you do it gently lest another cult, the antis, place you in durance vile for extending vivisectional work to the genus homo.

MEDICAL NOTES

Additional Army Enlistments. Since our last issue the following names have been received of enlistments in the Medical Reserve Corps:

OREGON.

Abele, J. G., Portland.
Crockett, E. N., Portland.
Cropp, C. S., Salem.
Garnjobst, J. H., Salem.
Hamilton, R. R., Klamath.
James, R. F., Portland.
Kauffman, H. R., Forest Grove.
Miller, T. H., Eugene.
Phillips, W. J., Corvallis.
Rosenberg, H. L., Portland.
Sefton, J. W., Hood River.
Van Dusen, Arthur, Astoria.

WASHINGTON.

Barry, S. D., Puyallup.
Clough, H. B., Okanogan.
Goetter, R. F., Colville.
Helton, A. J., Yakima.
Moore, R. A., Tacoma.
Rickards, E. A., Coulee City.
Ridpath, P. C., Spokane.
Schutt, Ray, Bremerton.
Spaulding, L. G., Kennewick.
Thompson, A. W., Yelm.

OREGON.

Unjust Attack on Doctors. Last month a Portland paper made a vicious attack on members of medical advisory boards, claiming they demanded pay for examining recruits, while lawyers gave gratuitous services. Representative doctors were quick to deny the charge and to explain the arduous and continuous services given to army examining work by many physicians with no compensation. This is a patriotic service which is not understood nor appreciated by the public.

A Family in Army Service. Rarely are so many representatives of one family found in army medical work as in the Rockey family of Portland. Dr. A. E. Rockey, the father and Paul, his son, have Captain commissions, while Eugene, another son, is Lieutenant, all stationed at Camp Lewis. At the same time Mrs. Paul works in the diet kitchen.

Army Doctors in Logging Camps. Under direction of Col. B. P. Disque army medical officers have been sent to logging camps in seven districts of the Northwest to attend to sanitary and housing conditions. This is a part of work of spruce production.

Lady Physician in France. Dr. Bertha Stuart, formerly of Reed College, Portland, has arrived in France, where she will give medical aid to women and children under the American Red Cross.

Detention Home for Women. Bids have been submitted for the municipal detention home for women in Portland, which will soon be constructed.

Promotion. Dr. R. B. Dillehunt, of Portland, has been advanced from First Lieutenant to Captain.

WASHINGTON.

Too Much Money Collected. At a recent meeting of the State Medical First Aid Board, at Olympia, it was decided to collect no more premiums for first aid work from Mar. 1 to July 1 from employers and workers not under contract. This action is due to the fact that sufficient funds are on hand in all classes to handle the work during this period. Doctors will be interested to learn an increase of 25 per cent. has been adopted for fracture cases.

Sphagnum Moss Instead of Cotton. This moss is said to be superior to oakum for surgical dressings and preferable to cotton in some respects. There are 25,000 acres of it in Washington, chiefly about South Bend. It is also found in Oregon, Alaska and British Columbia. It will hold twenty times its weight of water, while cotton is limited to five to eight times its weight. Women of Seattle are using large quantities for making pads.

Aldercrest Sanitarium for tuberculous patients of Snohomish County was completed and opened last month. It is situated in the hills about two miles from Snohomish on a very sightly location. It will accommodate about 30 patients and can be easily expanded as conditions demand it. Dr. L. G. Woodford, of Everett, will be in charge.

Addition to Edgecliff Sanitarium. Spokane County has let the contract for construction of an infirmary ward at the Edgecliff tuberculosis hospital, to cost about $100,000. There is a waiting list of about 40 patients. This will increase the capacity of the sanitarium to 100 patients.

Addition to Firlands. At the recent county election the voters of King County voted a bond issue of $80,000 to construct an addition to Firlands tuberculosis sanitarium, to care for many patients who cannot now be accommodated for lack of space.

Hospital at Bremerton. Plans have been completed for obtaining funds to reopen Bremerton hospital which has been closed about a year. About $15,000 will be devoted to making it a modern institution.

New Hospital for Centralia. A new hospital will be constructed at Centralia to cost $50,000. It will be three stories high, of brick construction. It will contain all equipment for a modern institution.

Head of Fracture Division. Major G. W. Hawley, of Bridgeport, Conn., who formerly practiced at Seattle, has been appointed head of the fracture division of the U. S. army in France.

Returned from France. Dr. J. I. Durand, of Seattle, has returned home after serving for about a year in France under the Red Cross, caring for the children of that country. A great work is being done for these dependent youngsters.

Diphtheria Epidemic. Last month diphtheria prevailed to such an extent in North Yakima that meetings were prohibited in churches, theaters and libraries. Twenty-five cases were reported at one time.

Dr. T. F. Campbell, of Portland, Ore., has located at Ridgefield. Since last spring the community has been without a doctor when its only practitioner joined the army.

Dr. C. Burgman, of Edwall, has located at Bremerton.

Dr. J. L. Gilleland, has been appointed health officer of Colfax, to succeed Dr. E. T. Patee, who has joined the army.

Promotion. Dr. R. P. Smith, of Seattle, has been promoted from the rank of Captain to Major.

Wedding. Capt. F. G. Sprowl, of Spokane, was married to Miss Margaret Theresa Downing, of New York City, Jan. 21, 1918.

OBITUARIES.

Capt. F. S. Pratt, of North Bend, Ore., died last month at Fort Russell, Wyo. He was in charge of the fort isolation hospital, where he contracted diphtheria from a patient which caused his death. He was a native of Massachusetts.

Lieut. Ivan Bellinger, of Sweet Home, Ore., died last month at Fort Riley, Kan., from pneumonia.

Dr. H. A. Smith, of Waterville, Wash., died Jan. 27, 1918, from self-inflected wounds and poison.

CORRESPONDENCE

FEE FOR LIFE INSURANCE EXAMINATIONS.

To the Editor:

The Chelan County Medical Society at its January meeting unanimously passed a resolution that after Feb. 1, 1918, the fee for examining an applicant for insurance in any life insurance company would not be less than five dollars. In view of the very important and particular services demanded by the various life insurance companies and rendered by the examiners, it was considered that five dollars was a modest, fair and reasonable fee.

The above notice was sent to every life insurance company doing business in Chelan county, which was paying less than five dollars for examining applicants. Only four companies saw fit to even make a reply to the letters. The Western Union Life, of Spokane, which was the leading company in this section, sent a doctor from Spokane to Wenatchee to examine their applicants. He was here only a few days when the local agents, not wishing to precipitate a fight with the physicians, quit the Western Union Life and signed up with another company which pays five dollars for examinations.

We think we are justified in this action and ask the hearty cooperation and support of all county societies and the State Medical Association in maintaining fair fees for these examinations. We hope they will see fit to take up the matter and help us fight it thru to a successful termination.

Wenatchee, Wash., Feb. 12, 1918.

Edward Hayden, M. D.
Secretary Chelan County Medical Society.

REPORTS OF SOCIETY MEETINGS

KING COUNTY MEDICAL SOCIETY.

Pres., H. E. Allen, M. D.; Sec., L. H. Maxson, M. D.

A regular meeting of the King County Medical Society was held at the Metropolitan Lumbermen's Club, Seattle, Wash., Monday at 8:35 p. m., Feb. 4, 1918.

Pathologic Specimen

Adenoma of the Kidney. Dr. C. W. Sharples presented this specimen, giving the history of the case. He discussed the different types of this condition.

Dr. W. S. Griswold demonstrated slides made from this kidney. He said that many would call this case a hypernephroma. He spoke of the different tumors of the kidney. It was discussed by Dr. Loe.

Papers.

Toxemia of Gastric Origin. Dr. C. F. Davidson presented a series of these cases, which had been cured by gastric lavage. They were of very diverse types. Dr. H. J. Davidson spoke of a similar case in which operation by the Mayos had been useless, but the stomach tube was potent.

Some Benefits of Gastric Lavage with an illustrative case of general peritonitis. By Dr. Willis. He emphasized the value of gastric lavage in surgical cases. These two papers were discussed by Drs. Lazelle, Dudley, Sharples, Griswold, Pratt, Davidson and Lippincott.

The secretary expressed regret for the insertion of the sanitarium "ad" in the last bulletin.

The applications of Drs. Runte, R. P. McClain and W. E. McClain were read.

Dr. Allen presented the plea by Rev. Mr. Cameron for support for a series of lectures on Christian Science by Mr. Peabody of Boston. Drs. Loe, Griswold and Willis endorsed the lecturer. It was voted that the matter be referred to the Board of Trustees for action.

Dr. Houston reported for the banquet committee.

PIERCE COUNTY MEDICAL SOCIETY.

Pres., S. W. Mowers, M. D.; Sec., R. A. Gove, M. D.

The regular meeting of the Pierce County Society was held at the Library rooms, Tacoma, Wash., at 8:30 p. m., Feb. 12, 1918. Twenty-six members were present with president, Dr. S. W. Mowers, in the chair. Minutes of the January meeting were read and approved. Applications of Drs. C. L. Taylor and W. W. Wick were received and referred to the Board of Trustees.

A letter was received from Mrs. Gana Balabanoff Stebbins, expressing appreciation for the sympathy of the society for the untimely death of Dr. Margaret Carsley Balabanoff.

Paper

Gonococcal Epididymitis in the Soldier. By Lieut. A H. Peacock, of Camp Lewis. He traced the course of invasion thru the meatus to the posterior portion of the urethra, the prostate gland and seminal vesicles; to the vas deferens and convolutions of the epididymis. The symptoms of acute epididymitis were detailed. Frequent relapses suggest surgical methods of treatment, the results of which have been brilliant. For the acute cases he employs epididymotomy and for the chronic cases epididymectomy. Convalescence is rapid.

Dr. Warren Brown said that he had treated many cases which had run from three to four weeks. The ordinary jock strap will often prevent epididymitis.

Dr. J. R. Brown endorsed the treatment described and believed it would materially shorten the inflammatory stage and prevent chronic epididymitis.

Ulcer of the Stomach. By Lieut. W. H. Stutzman, of Camp Lewis. He brought a soldier from Camp Lewis who ate sandwiches and drank water. After a short time he commenced to regurgitate the food. This was a case of esophageal obstruction, for which an operation was indicated. He described the technic of operation.

Dr. Stutzman presented another soldier who had ulcer of the stomach. He described symptoms and diagnosis. The treatment for gastric ulcer is medical, by which many of them are completely cured.

Dr. Hunter said many cases of apparently healed gastric ulcer are found a year or two afterwards not to be healed. Many can only be healed by gastroenterostomy. Dr. Ravich asked why it is that pain in gastric ulcer is always in one spot. Lieut. Stutzman said this condition is not observed except in typical cases.

The regular meeting of the society was held Feb. 26, at 8:30 p. m., the president, Dr. S. W. Mowers in the chair. Twenty-two members were present. Minutes of previous meeting read and approved. The application of R. C. Van Pelt was read and referred to the Board of Trustees.

The secretary called attention to the death of Dr. E. A. Trommald, who died at Long Beach, Feb. 17. On motion, Drs. Warren Brown and R. A. Gove were appointed a committee to draft suitable resolutions.

The secretary requested all members on the regular program to prepare written papers so far as possible, in order that they may be available for publication in the NORTHWEST MEDICINE and for the further reason that they may be filed with the records of the society.

PAPERS.

Suspension Larnygology. By Dr. W. G. Cameron. He gave the history of the laryngoscope and its discovery and explained its use. He described the technic of the suspension operation and detailed a case of papilloma of the larynx, on which he operated by this method.

Dr. I. P. Balabanoff considered the apparatus described a valuable addition to the means used in throat diseases. Dr. J. R. Brown asked if general anesthesia was always necessary. Dr. Cameron said it was not. Dr. Davies said it was away better to use anesthesia.

The librarian, Miss Frisbee, spoke for the library and hoped, while so many physicians have left for service in the Government employment, the remaining ones would continue to make the library successful.

Skin Changes in Lymphatic Leukemia. By Dr. Warren Brown. He reported a case and gave a summary of teachings on lymphatic leukemia. The acute disease seems to be infectious and is usually fatal.

Dr. Kinnear discussed the paper. Dr. Hicks thought different localities had different skin diseases. In Chicago there is a great deal of syphilis, while here it is comparatively rare. Leukemia is rare in this country.

Dr. J. R. Brown, chairman of the program committee, said the next meeting would be at Pierce County Hospital. Drs. Hunter and Penney would give a clinic. Dr. Wislicenus would present pathologic experiments from autopsies.

BOOK REVIEWS

Edited by Kenelm Winslow, M. D.

Anatomical Names, Especially the Basle Nomina Anatomica ("BNA") By Albert Chauncey Eycleshymer, B. S., Ph. D., M. D. Assisted by Daniel Martin Schoemaker, B. S., M. D. With Biographical Sketches, by Roy Lee Moodie, A. B., Ph. D. Octavo 764 pages, illustrated by numerous wood engravings and by two full-page plates in red and black. Extra muslin, $4.50, net. William Wood & Co., New York, 1917.

This is almost entirely a book of references for editors, authors, teachers and those physicians who aspire to purity of technical language. The author has followed the exhaustive six years compilation of the Basle Nomina Anatomica, completed in 1894 and later published in book form in an arrangement rather difficult of orientation, as the terms were only given according to systems. So, in order to facilitate the work, all the terms are arranged alphabetically with cross references to each, citing the page and serial number of the terms in their systematic positions, supplemented by 20,000 synonyms; 177 pages are given to 800 biographic sketches of anatomists. The preface of nine pages is historic and is interesting reading, showing the derivation of our medical terms from the Latin and Greek. The scholar may say "dog-Latin or bastard-Greek" for, even as now accepted, Greek endings are appended to Latin roots and vice versa. The multiplication of anatomic terms, even in this form of medical language, has grown to over 30,000, of which but a fifth are appropriate and really needed. Each language too, has its colloquial terms, ranging from that jaw breaker "Brustschlüsselzitzenfortsatzmuskel" of the Boche, to the Anglo-Saxon "eye," either of which is nearly unpronouncable to a foreigner of another nation; the former of which is better expressed in Latin by "sternocleidomastoideus" and the latter by "oculus," both of which may be sounded the same by all tongues.

Of the terms accepted for the B. N. A., possibly but a hundred have not gone or will not go into regular use, for a few long accepted, as the zonnla zinnii, tuba Eustachii and others, tho they mean nothing except memoria to antique authors, will persist. Then, too, common usage has compelled the acceptance of thalamus opticus (sleeping room) acqueductus cerebri (which contains no water) acetabulum (vinegar cup) and other names nowadays ludicrous when translated. These are so well engrafted into all languages that they or their equivalents are parts of daily medical speech. The work is needed by medical editors, writers and teachers and should be in all medical libraries.

WURDEMANN.

The Treatment of Infantile Paralysis. By Robert W. Lovett, M. D., Professor Orthopedic Surgery, Harvard Medical School. Second Edition, Revised and Enlarged with 123 Illustrations. 175 pp. Price, $1.75. P. Blakiston's Son & Co., Philadelphia, 1917.

The publication of the second edition of this book a year after the first issue is indicative of its demand. The great epidemic of infantile paralysis which appeared after the first edition presented an unusual opportunity for the study of the disease, the results of which are presented in this edition. The writer believes that more attention paid to the convalescent and chronic stages of infantile paralysis, together with less belief in its hopeless condition, will obtain more beneficial results in the future. The first chapter briefly considers pathology, symptoms and diagnosis. The remaining six chapters are devoted to treatment, considering this in the acute, convalescent and chronic phases, operative treatment, muscle training and spring balance muscle test. The various operative procedures so well known to the orthopedist are here presented. The author shows that much good can result from training the muscles. Here he emphasizes, as in so many other aspects of this work, that results can be expected only after a most careful examination of the function and relative strength of muscles. No surgeon should attempt to treat a case of infantile paralysis without a careful study of such an authoritative work as this.

SMITH.

The Prescription, Therapeutically, Pharmaceutically and Grammatically Considered. By Otto A. Wall, Ph. G., M. D., Professor of Materia Medica, Pharmacognosy and Botany in the St. Louis College of Pharmacy, etc. Fourth and Revised Edition. 274 pp. Price, $2.50. C. V. Mosby Co., St. Louis, 1917.

One does not realize how superficial is his knowledge of the essentials of prescription writing until he peruses a book of this kind which presents so many facts concerning this art. The first chapter, under general considerations, describes the various ingredients from which drugs are prepared. Under weights and measures the metric system is advocated for general use, altho its adoption has been very slow in our country. The importance of a knowledge of the Latin language is emphasized. The author strenuously opposes the idea advocated by some of writing prescriptions in English. The chief reason is that Latin is the universal language of the world but to realize its advantages one must write it correctly. Then follows sufficient of the Latin grammar to present the principles of the language. Under extemporaneous prescriptions are presented many samples correctly written and compounded. The chapter on incompatables could be profitably digested by every practitioner. An interesting chapter deals with the history of the prescription. Even in the remote days of cuneiform inscriptions the ancient Greeks wrote prescriptions. One has been unearthed which offers a remedy for "diseased gall-bladder which devours the top of a man's heart." This is a book well worth studying.

SMITH.

Diseases of Women. By Harry Sturgeon Crossen, M. D., Associate in Gynecology, Washington University Medical School, etc. Fourth Edition, Revised and Enlarged. With 800 Engravings. 1160 pp. C. V. Mosby Co., St. Louis, 1917.

This excellent book, appears in its fourth edition, a testimonial to its popularity. The work is profusely illustrated and the arrangement of the text is such that the important points in everyday bedside diagnosis are impressed on the reader in a manner which should aid him in making a systematic and thoro examination, in addition to obtaining a careful history. The many excellent illustrations of former editions have been increased by numerous drawings and photomicrographs, illustrating gynecologic pathology and to the text has been added a chapter on the ductless glands in their relation to gynecology, written by Dr. Hugo Ehrenfest. The last mentioned chapter will no doubt prove a valuable addition to this well balanced and practical work. The author does not attempt any extensive description of major surgical technic but outlines the treatment indicated and the operation of choice. We predict the fourth edition of Dr. Crossen's book will meet with as hearty a reception as greeted the former editions.

QUILLIAM.

Medical Ophthalmology. By Arnold Knapp, M. D., Professor of Ophthalmology, Columbia University (An International System of Ophthalmic Practice. Edited by Walter Pyle, A. M., M. D., Philadelphia) With Thirty-two Illustrations. Price, $4.00. P. Blakiston's Son & Co., Philadelphia, Pa.

The "Bandwurmperiode" of Graefe-Saemisch-Hess, Lewandowsky, Henschen, Wilbrand und Sänger et al, the snappy but yet brilliant reasonings of de Lapersonne et Cantonnet and the sometimes dry as dust "transactions" have been translated into understandable American-English so that, tho the work takes all of 480 pages, each subject is so succinct and yet so descriptive that the idea is irresistibly indented into the reader's cerebral cells. Of particular value to the advanced student and the consultant are the explanations of the author in the anatomic and physiologic chapters. The author has well correlated the general causes of ophthalmic disease, as well as their relations as symptome complexe of general affections.

If for nothing but the clear descriptions of anatomy and diagnostic pathology the book would be well worth while, but it is likewise welcomed for the master touch and teaching of its author, whose personal experience and reasoning is shown in almost every page. The thirty-two illustrations are all diagramatic, relating to anatomy and physiology. It is a fitting companion to others of the series, being well edited, printed and bound, and it merits a place at the right hand of every well versed physician and surgeon.

WURDEMANN.

Surgery and Diseases of the Mouth and Jaws. By Vilray Papin Blair, A. M., M. D., F. A. C. S., Professor of Oral Surgery in the Washington University Dental School, and Associate in Surgery in the Washington University Medical School. Third Edition. Price, $6. 733 pages, 460 Illustrations. C. V. Mosby Company, St. Louis, 1917.

This edition contains all material that has been assembled on face and jaw surgery since the beginning of the European war, and has been brought out under the supervision of the subsection, Face and Jaw Surgery of the Surgeon General of the Army. In correlating the knowledge of the general and dental surgeons in the treatment of war wounds, as in the surgery and diseases of the mouth and jaws generally, it gives us a work of unusual value. A revision has been made of all the chapters, bringing the book thoroly up to date. An extensive bibliography and complete index gives some idea of the wide field it covers. It is unnecessary to commend further a work whose previous editions have been so well received, and which is without a rival in its particular field. FORBES.

Diseases of the Digestive Organs with Special Reference to their Diagnosis and Treatment. By Charles D. Aaron, Sc. D., M. D. Professor of Gastroenterology in the Detroit College of Medicine and Surgery, etc. Second Edition illustrated with 156 Engravings, 48 Roentgenograms and 9 Colored Plates. 818 Pp. Lea & Febiger, Philadelphia and New York, 1918.

The early call for a second edition of this work proves its essential worth. In the new edition many of the statements that were criticized in the first edition have been corrected and much new matter has been added. An entire new chapter is devoted to the subject of examination of the duodenal contents and the use of the duodenal tube. Another chapter deals with chronic intestinal toxemia and chronic intestinal stasis and their medical and surgical treatment are thoroly discussed. Still another new chapter is devoted to flatulence, meteorism and tympanites, both exogenous and endogenous gasses-being considered and their treatment given. The text is profusely illustrated and the work is well worthy of a place in one's library. HASKELL.

Practice of Medicine. A Manual for Students and Practitioners. By Hughes Dayton, M. D., Associate Physician New York Hospital, etc. Third Revised Edition. 326 pp. Price, $1.50. Lea & Febiger, Philadelphia and New York, 1917.

This volume has been thoroly revised from the previous editions, the principal changes being necessitated by advances in the knowledge of infectious diseases and diagnostic methods. It is not intended as a complete work on the practice of medicine but combines in a few words the essential facts as to pathology, symptoms, diagnosis and treatment of general diseases in the practice of medicine with the exception of diseases of the pharynx, larynx and tonsils which are treated in a separate volume. The book is convenient for ready reference by the busy practitioner who wishes to ascertain an exact fact concerning a given disease without a superfluity of discussion. Under treatment a few essential drugs and methods are given for each disease without a multiplicity of suggestions. SMITH.

A Manual of Anatomy. By Henry E. Radasch, M. Sc., M. D., Assistant Professor of Histology and Embryology in the Jefferson Medical College, Philadelphia. Octavo of 489 Pages with 329 Illustrations. Cloth, $3.50, net. W. B. Saunders Company, Philadelphia and London, 1917.

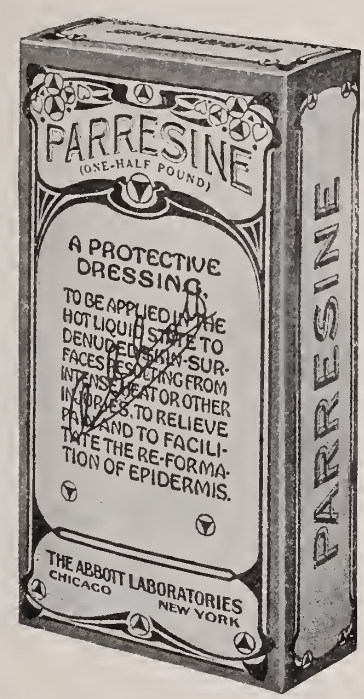
This new work by Prof. Radasch has been specially designed for those students and practitioners who require a book intermediate in size between the familiar compend and the larger textbook. It is unusually well illustrated and in addition to the presentation of the gross anatomy appropriate histologic illustrations and descriptions are included. The treatment of the nervous system is notable in this respect, the external anatomy and the histology being uninterruptedly connected from one segment to another, making it easy to trace impulses in a connected manner from origin to termination. The Basle nomenclature is given in parenthesis. There are no special chapters devoted to surgical or surface anatomy. FORBES.

Handbook of Physiology. By W. D. Halliburton, M. D., LL.D., F. R. C. P., F. R. S. Professor of Physiology, King's College, London. Thirteenth Edition. (Being the Twenty-sixth Edition of Kirkes' Physiology) with Nearly 600 Illustrations. 930 Pp. Price, $3.50. P. Blakiston's Son & Co., Philadelphia, 1917.

In the strenuous task of earning our daily bread we are apt to neglect the foundations upon which our art is laid. This is largely due to the fact that the literature regarding the new discoveries is so profuse and so widely scattered that it is not available to most of us. To those who wish to post themselves on the new advances in physiology, this new edition of Halliburton will prove a most welcome addition to their libraries. This book is now in its thirteenth edition and in it is embodied all that is new in physiology. The chapter on the physiology of the heart is particularly satisfactory. While only fourteen pages are devoted to general metabolism, yet all the essential facts are given. It gives us great pleasure to recommend this work to our readers. HASKELL.

State Board Examination Questions and Answers, of the United States and Canada. Fifth Edition. Price, $2.50. Wm. Wood & Co., New York, 1918.

This volume is compiled from the publications in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the Medical Record of the State Board questions during the past year. The demand for such a publication is evident by the fact that over 3,000 copies of each of the four previous editions were sold. The principle of the book is to offer to prospective licentiates suggestions as to the character of the questions propouuded by the examining boards of a given state. In order to avoid any uncertainty the correct answers are published for all questions asked. It is suggested that, as there are so many who fail in examination each year, about one-third meet disaster by reason of fright which might have been avoided by study of such examination questions as appear in this volume.

SMITH.

First Lessons in Spoken French for Doctors and Nurses. By Ernest H. Wilkins, Algenon Coleman and Ethel Preston, 137 pp. Price, 50c net. University of Chicago Press, 1917.

The authors state the purpose of this little book is to help American doctors and nurses to understand what is said to them in France, to make themselves understood in French and to understand printed French. Au attempt is made to do something which approaches the impossible—learn to speak a language by knowledge acquired thru the eye rather than by the spoken word. This object may be more nearly attained from this volume than from any that has come under our observation. By an ingenious set of phonetic symbols it aims to explain the French sounds which are difficult enough to attain when spoken by the instructor. If one is obliged to land on French soil without previous instruction in the language, this little book will offer many useful suggestions which will be of real value until further instruction can be obtained.

SMITH.

Handbook of Anatomy. By James K. Young, M. D., F. A. C. S., Professor of Orthopedic Surgery, Philadelphia Polyclinic, etc. Price, $2. 435 Pages, 154 Engravings, some in colors. F. A. Davis Company, Philadelphia, 1917.

This compend of anatomy is apparently complete. In it are condensed all the anatomic facts, the presentation of which by excellent illustrations from wood cuts and engravings make it very attractive. The Basle nomenclature is in parenthesis thruout the book, and chapters on surgical and dental anatomy further enhance its value to the body of students, nurses and others preparing for examinations, for whom it is primarily intended.

FORBES.

Military Orthopedic Surgery (Medical War Manual No. 4). Prepared by the Orthopedic Council. Illustrated. 230 pp. Price, $1.50. Lea & Febiger, Philadelphia and New York, 1917.

The material for this volume is drawn largely from the war experiences of the Allies. Extensive quotations are made from the writings of Col. Sir Robert Jones, whose wide experience has made him an authority. One valuable feature is the extensive illustrations and diagrams, describing the details for making splints and appliances. Chapters are devoted to the soldiers' feet, their disabilities and the military shoe. Injuries to bones of the feet receive detailed attention, with the methods of treatment. Albee's principles of bone grafting and inlay work are given the prominence they deserve. In the chapter on splints methods are described for preparing necessary apparatus for fractures of the extremities. The value of this little book will be appreciated by all surgeons as well as the military men.

SMITH.

Military Ophthalmic Surgery. (Medical War Manual No. 3) By Allen Greenwood, M. D., Major, M. R. C., U. S. A. Including a Chapter on Trachoma and other Contagious Conjunctival Diseases, by G. E. deSchweinitz, M. D., Major. M. R. C., U. S. A: and a Chapter on Ocular Malingering, by Walter M. Parker, M. D., Major, M. R. C., U. S. A. Illustrated. 112 pp. Price, $1.50. Lea & Febiger, Philadelphia and New York, 1917.

This handbook is not a treatise on ophthalmic surgery. In a condensed form it presents subjects that will be helpful to medical officers who have to treat ophthalmic problems in the daily routine of army work. The surgical methods described have been proven in hospitals of the British army. Operations are briefly described for treatment of various wounds of the orbit. The danger from trachoma in the army is so great that nearly half of the book is devoted to it. A very interesting. tho brief chapter describes the methods of detecting ocular malingerers. Much valuable information can be obtained from this book by the general surgeon or practitioner.

SMITH.

A Handbook on Antiseptics. By Henry Drysdale Daken, D. Sc., F. I. C., F. R. S., and Edward Kellogg Dunham, M. D., Emeritus Professor of Pathology, University and Bellevue Hospital Medical College, etc. 129 pp. Price $1.25. The Macmillan Co., New York, 1917.

The point brought out concerning the stability of antiseptics, in which the active substances are either decomposed and totally destroyed during infection and antiseptics, whose active principle is not destroyed but rendered relatively inactive, is a thing that has been overlooked by many writers on the subject. Miss Chick's work is very valuable in determining efficiency of germicides. The combinations formed of various already well known antiseptics and the results obtained show the great value of experimental tests with careful bacteriologic checks and how in this way, with systematic application of the proper antiseptics to wounds, patients may be saved both a great amount of time and lessening of scar tissue and deformity of wounded parts. The manner of arrangement and grouping with the formulas of the various antiseptics, giving their practical values, make this little book of great value to the busy surgeon and those engaging in military service.

GARHART.

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ORIGINAL CONTRIBUTIONS

MENTAL DEFECTS FOUND IN THE ARMY.*

By Major Robert P. Smith, M. R. C.
SEATTLE, WASH.

I have been requested by the Division Surgeon's office to tell you of the mental defects I have found in the men of the National Army during my service in the Mustering-in Physical Examination of the 91st Division, as well as my hospital service. The task is an enormous undertaking and, as in the story of "Mary Jane's Pa," I realize my limitations. I am inclined to simply say to you, "You should have been there and have seen what I did." However, fearing that this might not be a satisfactory statement to my superiors, and that I would probably be told I am now in the Army and an order is an order, I shall proceed to tell you all I possibly can, and ask your forbearance for omission.

As you must realize, the primary foundation and scientific knowledge of neuropsychiatry is obtained from textbooks, but the working or practical knowledge comes only by long years of experience, and many things obtainable in such examinations you cannot explain to others. It is like the child who, when you attempt to describe something new to it, will reply, "Please let me see it in my own hands." Personally I have confined myself exclusively to nervous and mental conditions for seventeen years, and almost every day I am seeing something new in my own hands.

Many things of interest I have learned since beginning my army service. Among them might be mentioned the frequency of the unstable station sign, known as the "sign of Romberg," as well as the unstable pupillary reflex, known as "hippus." Whenever one of these abnormal symptoms was found in a recruit, the second symptom was almost invariably associated with it, both of which we found absolutely worthless unless it was possible to secure further evidence of disease. At the beginning of the muster these symptoms were decidedly confusing, altho I had always attached some value to them. I therefore called the attention of my associate on the Neuropsychiatric Board, Capt. R. K. Hutchings, to the eye symptoms, and he carefully checked up with me on these findings. He will tell you the eye grounds were found absolutely normal, both the nerve and blood vessels, and the only significance of the two symptoms, we decided, was a temporary instability of the nervous system.

This we believe was largely produced by the sudden change of environment in the raw recruit. In other words, if you will permit me to use an expression I coined to describe the functional disturbance in the condition, "the new soldier had not as yet gotten his mental legs under him." This condition was more noticeable in troops brought up for examination within a week after their arrival, and the longer time a company was in quarters here before reaching my board, the less frequently these symptoms were found. To further check on our work and conclusions in several instances, all cases found with the most marked positive Romberg were requested to return a few weeks later, and in almost every case the symptom had disappeared, while several who previously had actually fallen when the test was made, had when reviewed an absolutely normal station.

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*Read before Medical Officers, 91st Division, National Army, Camp Lewis, Washington, Dec. 13, 1917.

For your enlightenment I will tell you that from September 11 to November 30, 1917, we examined ten hundred and sixty-nine (1069) especially referred cases. Of this number 332 were recommended for rejection, 636 were accepted for duty in the National Army, and 97 were taken in the hospital for special observation. Of the 97 hospital patients, over 50 per cent. will be additional rejections. The causes of these rejections were as follows: 137 for organic nervous disease, 26 psychoneurosis, 30 for mental disease (or psychosis), 10 for alcoholism, 21 drug users, 74 mental deficients and 29 constitutional psychopathic state. It will be noted the largest number occurs under nervous diseases, including epilepsy, while the second greater number occurs under mental deficients. It was frequently found that both conditions occurred in the same individual, but for purposes of classification the predominant condition was given the greater weight. It is almost with fear and trembling that I call the profession's attention tonight to the nervous conditions found among the recruits, for well do I remember, during the years I was a college professor, the morning hours in my office, following a lecture the previous day, and the number of students who would consult me as to the possibility of *their* having the condition of which I had told them.

It is true we have here a Neuropsychiatric Board to assist you. It is composed at present of three truly valuable assistants and myself. We are not here to do your paper work for you on cases you consider undesirable but more in an advisory capacity. Since September I have worked every night until nearly midnight and am still behind, hence I trust you will be charitable, and in referring your cases at least accompany your patients with a clinical record and your findings, so we may agree or disagree with your diagnosis. We do suggest, however, when you have men who do not progress as well as the average in their routine work, that you examine them mentally and, if you are uncertain of your findings, we will gladly assist you. If a soldier or an officer reacts habitually in an abnormal manner to events in his daily life to such an extent as to make him relatively useless, perhaps obnoxious or dangerous or not to be trusted, at all events unsuited for military service and no frank mental condition is found, and assuming that he is proof against admonition and endeavors to teach him to behave in a normal manner are unsuccessful, and if rebuke, reprimand, company discipline and even punishment by court martial improve his mode of reaction to his surroundings only temporarily or not at all, it will probably be found in a careful history of his life that he always reacted abnormally and the cause of his military and civil inefficiency is constitutional. These cases should be discharged on surgeon's certificate of disability, not in line of duty.

Mental breakdowns are very apt to occur in wartime and, if the subject has certain latent tendencies, they will be brought to light by the stress of war conditions. For instance, it has been shown that in such circumstances there is an increase in the number of alcoholic psychoses, an increase in the number of psychoses due to syphilis and in psychoses of metasyphilitic paresis. Persons with these tendencies are more prone to breakdown in wartime than in time of peace and, therefore, are not fitted to become soldiers.

That an individual with an alcoholic psychosis is not fitted to become a soldier is self-evident but Dr. White, of the Government Hospital for Insane, shows from the experience gained in the Russo-Japanese war that the syphilitic psychoses are likewise of paramount importance. At the Russian Psychiatric Hospital, at Harbin, during the war, the percentage of paresis among those brought back from the front was 5.6. Undoubtedly its development was hastened by war conditions, and this clearly shows the influence of these conditions upon those who have syphilis.

Dr. White also calls attention to the delusion that the ne'er-do-well, the "black sheep" of the family, could be picked up and made a man of by military discipline. The individual of this class, he states, lacks the ability of continuous application, and of necessity endeavors to slip from under the weight of his responsibilities and duties. Thus begins a series of minor infractions of military regulation which frequently end disastrously. In another article on the subject Dr. White asserts, "A man may be quite able to get along all right; in fact, to perform his duties with marked efficiency in time of peace, who would break completely under the stress of war. This has long been realized as true of the physical, but we must now realize it is more than true of the mental, especially as the game of war comes more and more to be played with brains."

In the light of modern psychiatry it is believed that more than one great battle has been lost by a general who was in the early stage of paresis, and doubtless dozens of men who met the fate of deserters had their doom written in their brains, could their officers have read the sign of dementia praecox. To be *mentally* sound for such war conditions as try men's souls is, we believe, of far more importance than to pass the eyesight test or to be typhoid proof. Reports from the allied armies at the front show that hysteria, neurasthenia and the conduct of those predisposed to shell shock are as contagious as many exanthematous diseases.

The subject of mental defectives and their consequent inability to adapt themselves to any kind of employment, especially for military service, requires special responsibility and good judgment in handling such cases. The problem presents an interesting and fertile field of study for the medical officer. That some individuals cannot adapt themselves to military life is certain. Such ideas as duty, obedience, truthfulness and patriotism are entirely foreign to them. They tire early of instruction and cannot adjust themselves to the changed conditions of their life. If left to carry out instructions or called upon to think for themselves, their lack of dependability becomes manifest. When brought in contact with normal associates, they soon feel their incompetence and become discontented and discouraged which, added to their lack of stability, leads to desertion from the service. Many resort to the misuse of alcohol and, while under its influence, commit offenses for which they are punished. They again become very irritable and at times develop periods of excitement and finally a definite psychosis.

The diagnosis of this degree of mental defect at the time of enlistment is, it is needless to say, extremely difficult. Certain it is that it cannot always be detected by casual inspection or a reading or writing test. To meet with any degree of success the examining officer needs a system of examination which will test the various mental functions, especially the power of attention, good sense, judgment, capacity to think, initiative and adaptability. On the recognition of such points the diagnosis of a normal mind must rest. It is impossible even with this scheme to bring out every form of mental defect in such a short time as we are permitted in our examination at the mustering-in service. It will, however, detect many cases of feeble-mindedness, whose deficiency would not be otherwise recognized until after weeks of observation at the training station.

I lay stress upon the family and personal history which should be carefully inquired into before the examination begins. The applicant should be carefully questioned in reference to the number of years spent in the schools he has attended; whether or not he has been successful in passing each grade, and if not what grades were his failures, and the number of times such grades were repeated. He should be asked whether he has ever been an inmate of an institution for the insane, and whether or not any of his family have been in a like condition; what his present and previous occupations have been, so as to learn definitely how frequently he has changed from one kind of work to another and also his interpretation as to the cause of such changes. This is especially important in the class known as dementia praecox. In these cases frequent change of occupation will almost invariably be noted without apparent reason. This is especially true of the paranoid type who frequently associate their inability to succeed in their particular vocation to the persecution of some individual or set of individuals, who, in their opinion, envied the patient's ability and used underground means to remove him from a lucrative position.

When we realize the strain that will occur to the normal mind, should we be subject to short rations, loss of sleep, great emotional strain, exhausting exposure, excessive physical exertion, home-sickness, etc., you may well imagine the disturbance that will occur in these border-line cases or near insane. As seen in peaceful surroundings, many a mind in the regular routine of civil life can maintain its equilibrium, even tho the pedestal on which it stands is a very narrow base, and still pass thru life without suspicion except perchance by a trained psychiatrist, but it will utterly collapse when removed from its normal environment or sent to the front for a deadly combat. It has been demonstrated by Sheeban, in the annual reports of the Surgeon Generals of the Army and Navy, that mental and so-called nervous diseases among enlisted men and officers are responsible for much non-efficiency and disability in the service, as well as an enormous expense to the Government. Of all cases admitted to the Government Hospital for the Insane, it is estimated that about 54 per cent. show predisposition to mental disease prior to enlistment.

As to the forms of insanity which service men are most likely to develop, the records show that over 56 per cent. were diagnosed dementia praecox; that of general paresis was made in about 20 per cent., cerebral syphilis in 3 per cent., manic depressive psychosis in 2 per cent. and miscellaneous about 19 per cent. The feeble-minded include those individuals who are deficient in the sphere of intellect. There should be no trouble in diagnosing any of these but the milder grades. Great assistance was expected from the Binet-Simon scale. It was found, however, to be too complicated for service in the present emergency. Psychopathic characters are individuals who are failures of mental adaptation. They are not feeble-minded nor insane, but are clearly abnormal mentally. This group includes the so-called defective delinquents, the moral imbecile, the constitutional psychopathic and inferiors, and the pathologic liars and swindlers.

Psychoneurosis comprise the minor psychoses, and are responsible for most of the cases of mental disturbances in officers. Neurasthenia, hysteria and various kinds of obsessions are included in this group. Individuals suffering from this type of mental disability are unable to adapt themselves to the conditions of every day life, and so spend their time in useless conflict. These can only be eliminated by careful attention to their life history and, if it is found they have always manifested an abnormal character of reaction which has persisted in service, it may be concluded that it is constitutional, an abnormal make-up. They should then be passed on by Boards of Medical Survey and discharged for disability, not in line of duty.

Malingering is the effort of an individual to overcome a difficult situation by the production of mental or other symptoms. That it never occurs in normal persons is coming to be generally accepted. It is not always true that malingering is an acutely conscious reaction, as it is often beyond the awareness of the individual, occurring in the subconscious. Because of their abnormal make-up, these individuals are apt to cause difficulties, if they succeed in getting into the military service.

The last and most inferior class of which I shall speak are those given to drug addiction, be it morphine, cocain, heroin, or yenshee. A very large majority of those using one drug, discovered at the mustering-in, were found to be using two or perhaps all. This class of recruits is at all times worthless. They are absolutely undependable, unstable, liars, thieves and vagabonds. I am unable to find words to describe my contempt and disgust for these individuals, or at least words that would be permissible for me to use in public. Users of narcotic drugs should always be rejected at the source and, if perchance they should find their way into the service, I cannot too strongly recommend that immediately upon discovery, should such a recruit be among your number, you at once send him to the Disability Board for retirement on S. C. D., not in line of duty.

It is useless to attempt to make a soldier of such a person; your efforts will be spent in vain, should you try. Moreover, one such person in your command will sooner or later contaminate a large percentage of the company. The habit is highly contagious and, once infection occurs, the man is lost physically, mentally and morally. Any manhood he ever possessed is soon lost, and he becomes a cringing coward, the lowest specimen of man on earth.

I regret to tell you that, of all the professions, the one heading the list as the most frequent user is the physician. Exposed often, as physicians are, to severe weather (especially in the country) and frequent loss of sleep, many resort to the use of narcotics as stimulant, deceiving themselves into believing it would be just the one dose. If you have such a person in your command, I cannot advise you too strongly to rid yourself of him at once, as you would drive out a scourge or a threatened virulent infection. Such persons were weak before beginning the use of narcotics. After acquiring the habit they are as nothing—the scum of the earth.

In a recent communication Sir William Osler, speaking of the neurasthenic as he appears at the recruiting station, says that the unfit should be checked at the recruiting office and kept at home. He adds, "The trenches are no place for a man with unstable vasomotors. In the strain of war they break like dry twigs and become a heavy burden in the hospital." Dr. Thomas W. Salmon, Medical Director of the National Committee for Mental Hygiene, in a letter from London, dated June 1, 1917, wrote: "The extent of these casualties are almost beyond belief. I have not yet had access to the official records, but apparently the neuroses constitute one of the most formidable problems of modern war. These people are certain to go to pieces in the presence of danger or hardship, and are not only useless to themselves but are also a serious drag upon their comrades and the army in general."

Quoting then from a recent *A. M. A. Journal,* what can the Medical Corps of the United States Army do toward the prevention of the experiences of our allies in such cases? Obviously it must be checked at the recruiting or mobilization camps before the men leave for France. There should be no question in the minds of the medical officers as to the advisability of checking this condition at the source, for no one who has seen the results of modern warfare on the unstable mind can do otherwise than urge such measures with his utmost vigor. It becomes the duty of each medical examiner to weed out from the recruits such men as are liable to shell-shock. By so doing, an enormously important advance will be made in our army, as judged by the experiences of the other armies of the allies.

We have been strongly advised by Osler to check the enlistment of the neurasthenic. It is obviously difficult to pick him from the crowd, as he may come up in good form and be anxious to go overseas. But it is not so difficult with the mentally deficient, the "queer stick," the "boob," and the "butt of the practical jokers." He is soon observed and noted by both officers and men and, if he is singled out and talked with for five or ten minutes, one should have no difficulty in deciding his unfitness for active trench warfare.

One should also look carefully into the past history of the depressed, the man who worries unnecessarily, the self-conscious, the sly, the high strung, excitable man, the violent tempered, the nervous, the timorous, the easily frightened, or the neurotic individual. Any or all of these will probably make poor first line trenchers. The task is a difficult one but that should not prevent our trying. What an advantage it would be to our army officers, and what a saving of life it would mean to our men, if those liable to shell-shock could be eliminated from our forces that will fight overseas. Such Utopia is probably impossible, but I feel confident that careful weeding out of the mentally unstable will greatly reduce the numbers of shell-shock cases that are bound to appear in our casualty lists.

THE CHARACTER OF THE VIOLENT WARD.*

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It will be understood in the beginning that the remarks made in this paper apply only to men patients, as my experience has been gained largely on the male wards. On entering the hospital at Fort Steilacoom, the patient is placed on the receiving ward for observation, and a provisional diagnosis made. In this an attempt is made to follow the classification of mental diseases, based on that of Kraepelin, used in the Government Hospital for the Insane. The provisional diagnosis may be revised and revised again, but if made after careful observation and study is of value in determining the prognosis.

When the time comes for the patient to be transferred and placed definitely in the institution, the diagnosis is not the main consideration in determining on what ward he shall go. No serious effort is now attempted in any hospital, of which I have knowledge, to classify patients in wards according to the clinical forms of mental disease, for the reason that the form of insanity does not always determine the conduct of the patient. For example, take a case of manic-depressive insanity, manic or mixed type. He may be either noisy and resistive, violent toward attendants and fellow patients and need close watching to prevent suicide or escape, or, on the other hand, he may be quiet and orderly but require careful nursing. An examination of the commitment paper, the document of authority by which he is legally held, will show that disorder of conduct was what influenced the court in removing him from society, and not the fact that he was insane or suffering from any particular form of insanity.

"With what form of insanity is the patient afflicted?" is one of the questions in this paper to be filled out by the examining physicians. We often find such answers as, "delusional insanity," "just nutty," and more often the question is left unanswered. But we always find abundance of evidence showing disorder of conduct in the home and in the community of sufficient degree and character to justify the court in the commitment. It is, then, the behavior of the patient in the home and in the community which brings him to the hospital and it is his behavior here that places him definitely in any particular ward.

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*Read before Pierce County Medical Society, Tacoma, Wash., Nov. 13, 1917.

For a number of years, wards seven and eight were conducted as the first and second violent wards. Some time ago the more dangerous men were transferred to seven, and since that time, eight has been operated as a working ward. It was the men from the second violent ward who performed the greater part of the labor in building more than two miles of concrete road, recently completed on the Steilacoom boulevard. After the completion of the work the engineer in charge remarked that this crew of men was equal to any he had ever worked with, both from the standpoint of quality and quantity accomplished.

Industrial occupation now takes a prominent place in treatment in all modern institutions. The ideal yet to be realized is the abolishing of mechanical and physical restraint. The care of the patients in any hospital can be gauged very accurately by the amount of such restraint used. It would be foolhardy to attempt to care for violent and disturbed patients without such restraint, unless something were substituted in its place. Such a substitution has been found largely in industrial occupation, and as a result the industrial departments are well organized in most modern institutions.

Of the 818 male patients of Fort Steilacoom, 339 are employed daily in industrial pursuits outside the wards. The work is on the farm, in the dairy, gardens, shops and in the improvement of the grounds; 261 of the remainder perform the daily work upon the wards or engage in the lighter occupations, such as tailoring, caneing of chairs or cabinet work. Three wards are now being made over and a large part of the work, such as mixing of mortar, plastering, painting and laying of hard wood floors, is being done by patients under the direction of skilled workmen. Thus a total of 600 men patients is regularly employed at some useful work. An attempt is always made to place the patient in a department where the work will be congenial and suitable to his mental and physical ability.

The capacity of ward seven is 36. The number admitted to the ward during the past twelve months was 65, showing a total of 101 treated there during the year. Of those now on the ward 66 per cent. are of the paranoid forms. This includes five cases of paranoia and nineteen cases of paranoid form of dementia praecox. Compare this with the fact that only 5 per cent. of the patients admitted during the last biennium were of this type. However, it is reasonable to expect to find a large percentage of these patients on the violent ward, as they have always been considered the most dangerous, owing to their delusions of persecution which are more or less fixed and systematized in character. The residence on the ward runs from one month to fifteen years and it is interesting to note that, of the eighteen patients who have been on the ward for more than two years, twelve of them are paranoid form of dementia praecox, three paranoia, two manic depressive insanity, mixed type, and one epileptic.

This ward is the best kept in the hospital. It is the place where patients who have shown a tendency to violence and irritability in other wards are sent for treatment. All influences of an exciting and disturbing nature are discouraged. The attendants are chosen with especial regard to their evenness of temper, tact and judgment. Quiet and order here prevail to an extent not found anywhere else in the institution. Patients are not permitted to mingle in groups, but when unemployed are encouraged to play such games as cards or checkers. They are furnished an abundance of reading matter.

They lead a regular but active life. The attendants see that everyone is up and dressed by six o'clock. Each makes his own bed and puts the room in order. Breakfast is served at seven, the meals being brought in a warming oven from the central kitchen and served in the ward dining room by the attendants, assisted by patients. The floors are then polished, the polishers used on this ward being of a larger and heavier type than those ordinarily found on other wards in order to furnish the maximum amount of exercise. This finished, they read, write letters or play games in the day hall. The physician calls between nine and ten o'clock, after which they are taken for a walk by the attendants, usually as much as two miles being covered. If the weather permits, the rest of the morning is spent out of doors. Dinner is served at noon and the same program is followed as in the morning until supper at six o'clock.

All are in bed by seven. Before the doors are locked the attendants see that each patient folds his clothes in a neat pile and places it outside his door. This clothing is then carefully searched to see that no dangerous weapons or devices for escape have been secreted during the day. It is seldom that such articles are not found, some patients having remarkable acquisitive tendencies, and especially is this marked in the paranoid form of dementia praecox. Every night the attendants gather up a store of old papers, bits of string, broken pieces of iron, sticks and pebbles. Occasionally a patient is found in possession of another's pipe and tobacco or the small change of one who has been visited by a generous friend.

It is remarkable how soon the patient who has shown violence and irritability on other wards will react to the influence here and become quiet and orderly. There is a man at the hospital suffering from toboparesis who had been keeping his ward in a turmoil by fits of ill temper, and who quarreled with everyone furiously and continually. At last he was sent to the violent ward and the physicians waited expectantly for some sign of protest at his lack of freedom, in order to make terms of surrender and gain a promise of peaceful behavior. No protest came, however, and he adapted himself to the life of the ward with the utmost content. No fault could be found in his conduct but his ataxia of gait prevented his keeping up with the others on their long walks so the physician visited him. The doctor began by trying to exact a promise of better conduct should he return to his own ward, but he said he was perfectly satisfied where he was. Inducements were held out in the form of greater liberty, but he refused to be moved; a more generous supply of tobacco was then offered but he was not attracted. "I'm satisfied where I am. I have my own chair here, and this is the first time I've ever been treated like a gentleman."

The insane patient has no insight into his own mental condition. If he is able to reason at all, he will maintain that he is sane and is being unlawfully deprived of his liberty. He will, however, recognize the mental peculiarities of his fellow patients, and will seldom take them into his confidence. They do not conspire at escape, and so it is that two attendants are able to care for this ward.

The results obtained from residence on the violent ward show that a very small percentage retain homicidal and violent tendencies. This is shown in the eighteen who have been on the ward more than two years. The others improve sufficiently to be transferred to other wards and many become useful in the various industrial departments.

An effort has been made in this paper to give a true impression of the character of the violent ward. We find there is often an impression in the minds of the public that it is a place of padded cells, of straight jackets, of the "black bottle"; all due, probably, not so much to abuses that have existed in the past, as to the association of the term "violent" with the name of the ward. It is very easy for the public mind to think of a violent ward as one where violence is not only permitted but practiced, instead of a ward for disturbed patients where they are treated for such a condition.

The discussion of forms of treatment does not properly belong in this paper, but I would like to state that since the institution of hydrotherapy into the hospital we have been able to discontinue the use of quieting drugs as a means of restraint. Drugs, together with the mechanical forms of restraint which I am showing tonight, can give only temporary relief and if used for any length of time do great harm to the patient.

Plans have been drawn for a treatment building to be erected at Fort Steilacoom, embodying all the modern and rational forms of treatment for mental cases. When this is accomplished we hope to realize, in a measure, the ideal, which is the abolishment of all mechanical and physical restraint.

PROGRESSIVE PERNICIOUS ANEMIA.*

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and
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In recent years no subject in hematology has received more attention than that of the group of hemolytic anemias. Of this group progressive pernicious anemia is one of the most remarkable, the etiology of which is a mystery. In its clinical features, its course, and its intractableness to almost all forms of treatment it differs very widely from the other members of the group.

Owing to the lack of accurate information as to the exact causation and pathology of this severe anemia, it must be recognized primarily as a condition rather than a disease, due to some subtle powerful destructive toxic influence that has a selective degenerative action, not only on the blood making structures (more especially on those concerned in the formation of red cells), but also on the spinal cord, heart muscle, liver and kidneys as well, with a persistent tendency to pursue a progressive course, and with rare exceptions it ultimately terminates in death.

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*Read before the Twenty-eighth Annual Meeting of Washington State Medical Association, Spokane, Wash., June 20-22, 1917.

It is more common in men than in women, much more common after than before thirty-five years of age, not infrequently in more than one member of a single family. Bartlett reports father and three sons having died of pernicious anemia. Cabot reports two sisters in one family and a brother and sister in another family. Patek has reported two brothers and a sister dying in one family. In our own practice we have a man, his daughter and a niece, the two former dead, the latter still living and apparently well after a second relapse three years ago.

Intestinal and blood parasites, pregnancy, nervous strain, syphilis, gastric atrophy, autotoxemia from the bowels, chronic diarrhea and other diseases are occasionally associated with it, but there is little evidence of any distinct connection. In considering etiology authorities recognize that the etiologic agent is essentially a toxin, but differ in opinion as to whether this toxin acts primarily as a hemolytic agent or whether its initial action is to produce a megaloblastic marrow.

The two theories upon which there is much active controversy in regard to the production of pernicious anemia are, first, that a hemolytic toxin is elaborated in some part of the alimentary tract, whence it passes into the portal circulation, producing there a great destruction of red blood corpuscles. The iron pigment liberated from the corpuscles is then carried to the liver and stored up there as a result of this hemolysis. It is the large proportion of megalocytes that determines the high hemoglobin index, and these megalocytes in turn are derived from the megaloblastic marrow.

The second theory is to the effect that a toxin is produced in some part of the body, not necessarily the digestive tract, and that it acts primarily on the marrow, producing a megaloblastic rather than a normoblastic hyperplasia. The result of this megaloblastic marrow is that immature and ill-formed red cells are sent into the circulation and these, being more vulnerable than normal corpuscles, there is increased hemolysis which becomes widespread and not limited to the portal area.

Both theories, therefore, recognize the action of a toxin and both recognize an hemolysis, but differ as to the relationship of the hemolysis to this megaloblastic marrow. The main dispute is, then, which of these two morbid processes is primary, whether the disease begins as a hemolysis or as a megaloblastic degeneration of the bone marrow.

Hemotologists who accept the first theory regard the hemolytic toxin as a specific substance and progressive pernicious anemia as a specific disease. Those who accept the second theory seem to regard pernicious anemia as a group of symptoms resulting from various causes, any of which will produce megaloblastic marrow. Both presuppose a toxin in some part of the circulation, but whether or not the toxin comes from the alimentary tract is not certainly determined. There are a number of poisons that will produce a blood picture corresponding to that of pernicious anemia and they will also produce a positive iron reaction in the liver, spleen and kidney, just as the toxin of pernicious anemia will do.

The pathology of the spleen and even the histology of this organ is not very well known. One may search all the books at his disposal without getting much satisfaction. However, there has been one observation, made of late by Eppinger, that throws some light upon the part played by the spleen in pernicious anemia. When the artery reaches a diameter of .2 mm. it leaves the trabecula and penetrates a follicle; it is now known as the central artery. In pernicious anemia this central artery, which normally has a thick wall, is almost obliterated by a large deposit of hyaline matter in its media. This forces the blood out thru the capillaries into the splenic pulp, which is the erythrocyte destroying tissue, instead of allowing a large part to pass directly into the sinuses and on to the liver. From this it may readily be seen we might look for some improvement following splenectomy. It is very evident, however, that the spleen is not entirely to blame for the destruction of the red cells, for if it were the removal of the spleen would give a permanent cure. So far the case reports do not show that patients suffering from this disease, upon whom a splenectomy has been performed, return to an entirely normal condition.

All writers on pernicious anemia mention the different changes in the blood, such as variation in the size of the corpuscle, changes in shape, changes in staining qualities, the presence of nucleated red cells, and the increased ratio of hemoglobin per cell, so that the ratio of hemoglobin to the number of cells is greater than one, but it seems to us that they very rarely put enough emphasis on the fact that these conditions are not always present in a case of pernicious anemia. Any or all of them may be absent at times during the progress of the disease, so that one examination has but little value in the diagnosis of this condition.

Here, as elsewhere, when making use of laboratory work, the clinician is inclined to look upon the findings of the microscope as absolute. He expects results each time that will indicate the presence or absence of a certain diseased condition. We must learn in all laboratory diagnosis to be as persistent in the use of these methods as we are in the use of physical examination. Sometimes the clinician will be able to get a complete picture of pernicious anemia with the first examination of the blood. However, more often he may require a number of examinations before he will find any indication that will justify the diagnosis.

The blood examinations necessary for the diagnosis of pernicious anemia are simple. One should have an instrument that will give a fairly accurate estimation of hemoglobin. The Tallqvist scale we do not consider of much value. The Sahli or Dare instruments are both valuable, the former being moderate in price. For staining hemotoxin and eosin are efficient and are more likely to be stable than any of the modified Romanowsky stains. The H. and E. will show all that is necessary for most blood work and the technic is simple. Fix the slide in ½ per cent. formalin and alcohol for a minute or two; then stain with hematoxylin; follow with weak eosin, about one-tenth per cent.

Whatever the cause of the disease, the process of destruction of the corpuscles apparently begins in the spleen, so we would expect to find considerable broken down hemoglobin in it and also in the liver, for, just as under normal conditions, the process of hemolysis is completed in the liver. The iron of the hemoglobin is deposited in simple chemical form about the periphery of the lobules of the liver, and is present in such quantities as to give readily a Prussian blue color when treated with potassium ferrocyanide, and afterwards with a dilute solution of hydrochloric acid. This post-mortem finding is a positive sign of pernicious anemia. In addition to the presence of the iron compound in the liver lobules, there is considerable degeneration of liver cells. In the kidney the deposit of iron takes place about the convoluted tubules.

The symptoms observed in cases of pernicious anemia may be divided into three groups: those due to the anemia, to the gastrointestinal system, and to the nervous system. Those due to anemia are excessive weakness, languor and debility, palpitation of the heart and shortness of breath upon exertion, a tendency to syncope, slight edema of the subcutaneous tissues, pallor of the mucous membranes. The skin assumes a lemon yellow or canary yellow tint. Temporary attacks of pyrexia occur in association with paroxysmal exacerbations of blood destruction.

The symptoms indicative of gastrointestinal disturbance may constitute the first manifestation of disease. There is loss of appetite and sore mouth. (Stern believes that periodic soreness, burning and ulceration of the mouth, gums and fauces, are almost constant symptoms of the disease in its earliest stages.) Periods of nausea or vomiting and diarrhea are of frequent occurrence. Attacks of abdominal pain comparable in severity to the crises of tabes often occur. Free hydrochloric acid in the gastric juice is diminished in amount, or may be absent.

The nervous symptoms are headache, vertigo, faintness, numbness and tingling in the extremities, irritability, lack of energy or power of concentration and somnolence. Sclerosis of the spinal cord gives rise to symptoms varying from slight ataxia to paralysis of all the limbs.

There are no symptoms likely to suggest the diagnosis before the blood count has become typical. In well marked cases the diagnosis does not as a rule present any difficulty, but pernicious anemia must be looked for if it is to be detected early. Symptoms including vague ill health, chronic dyspepsia, cardiac debility, intermittent anemia, pigmentation of the skin, changes in the urine, neurasthenia, neuritis, spinal sclerosis, mental derangements and probably a host of others, may be the earlier manifestations, the nature of which may remain obscure for some time, if blood counts are not carried out almost as a routine practice. It is the blood picture revealed only by the microscope which confirms the diagnosis. Without its use no satisfactory diagnosis can be made.

The insidious development, occurring mostly in elderly people, with a complaint of long standing and gradually increasing weakness and dyspnea, lemon tint of the skin and the accompanying blood changes of a profound anemia, namely, a great diminution in the red blood corpuscles (2,000,000 per cmm.), a high hemoglobin index, a diminution of leucocytes, particularly the polymorphonuclears, and the presence of megalocytes and possibly megaloblasts and normoblasts constitute the characteristic clinical picture of pernicious anemia. Two blood examinations even a few hours apart may give vastly different findings, for in the interval a blood crisis may occur. Occasionally in this disease there may occur a shower of nucleated red cells mostly normoblasts. The striking point about this crisis is the sudden appearance and disappearance of these cells in the peripheral blood.

There are three other conditions in which the blood picture is that of pernicious anemia. These are the anemias caused by the fish tape worm, the hook worm, and syphilis. The stools should be examined for parasites and eggs to rule out the two former conditions, and the Wassermann reaction used to eliminate syphilis. It should be remembered, however, that one negative Wassermann does not exclude syphilis. Eosinophilia may indicate the presence of the intestinal parasites.

In the treatment of this severe disease general management is of great importance. The patient should remain in bed or at least in a recumbent position until a remission occurs. Warmth, exposure to fresh air and sunlight are equally important. Salt water baths, gentle and systematic massage, when the patient is at absolute rest and not too weak, are useful adjuvants.

Experience shows that no absolute rule of diet can be laid down suitable for all cases. A nutritious diet should be arranged, one in which food stuffs rich in purin bodies are to be restricted, and should be adjusted to the digestive power of the individual. The stomach must not be overloaded. Fruit juices and lemonade should be freely allowed.

The most useful drug is arsenic. Its use is attended in most cases, for a time at least, with marked benefit. It may be given in the form of Fowler's solution (liquor potassi arsenitis) in doses of two or three minims thrice daily after meals. The object to be aimed at is to keep the patient on small doses of arsenic of 2 to 5 minims as long as improvement continues and to continue the arsenic in 2 or 3 minim doses for periods of months subsequent to apparent recovery. Some prefer the use of sodium cacodylate. This may be given in capsules or hypodermically in doses of 2 to 8 grains per day.

Byron Bramwell, the originator of the treatment of pernicious anemia by arsenic, is convinced of the superiority of the salvarsan treatment. He considers the original salvarsan to be considerably more beneficial than the neosalvarsan, overcoming one of the most prominent symptoms of the disease, the anemia.

In 21 cases treated by salvarsan, in 28 5/10 per cent. there was no improvement; in 14 2/10 per cent. there was slight improvement; in 23 8/10 per cent. there was marked improvement; and in 33 3/10 per cent. there was complete temporary recovery. A subsequent history of these cases shows that 4 7/10 per cent. remained fairly well; 27 8/10 per cent. quite well; 71 4/10 per cent. have died.

In 110 cases treated by Fowler's solution, in 32 7/10 per cent. there was no improvement; in 20 per cent. there was slight improvement, in 34½ per cent. there was marked improvement, and in 12 7/10 per cent. there was complete temporary recovery. In 10 9/10 per cent. of these cases the ultimate result is not known; in 3 6/10 per cent. the patients remained fairly well, and in 83 6/10 per cent. the patients have died.

The effect of various microorganisms in producing anemia must be considered in our therapy. In 1899 Adami pointed out that what he had termed subinfection may have a part in the etiology of pernicious anemia. It has been shown by experiment that leucocytes wander out of the vessels, even out on the free surface of the intestinal canal, and pick up food particles, particularly fat and bacteria. Normally these bacteria are destroyed, but under conditions of lowered resistance or when there is congestion or slight inflammation, the leucocytes may carry back more bacteria than can be readily destroyed in the blood stream, when we may have a low grade infection or subinfection. If this be by bacteria that do not tend to produce immunity, the patient may develop a tendency to reinfection, just as we have an increased susceptibility with each attack of pneumonia or diphtheria.

During the last decade the importance of sepsis has been recognized as a probable causative factor in producing the anemia. Because of this the antiseptic treatment has been introduced as an adjunct to the administration of arsenic. It is certain that the disease cannot be permanently checked by the use of arsenic, therefore the complete removal of the oral, gastric and intestinal sepsis associated with progressive pernicious anemia by antiseptic treatment is important. It is most essential to remove all septic foci and conditions which favor their persistence, in order to give the blood-forming organs every assistance in their endeavor to make up for the blood destruction. It is chiefly important to direct special attention to the removal of any sepsis, however slight, connected with the tongue, diseased teeth or gums, especially of the teeth not only by direct antiseptic measures but also, whenever possible, by the removal of old roots or teeth showing commencing decay. Small cavities should be filled. All suspected teeth, especially those that have been filled or crowned, should be x-rayed to see if they have abscesses about their roots.

In many cases, as a result of constant absorption of septic material from the mouth, an infective gastric catarrh is produced. This is followed later by deeper seated changes of the nature of glandular atrophy, and gastritis evidenced by intermittent vomiting of inflammatory streptococcal exudation.

In order to remove or combat this catarrh, in addition to careful hygiene of the mouth, the use of local gastric antiseptics is indicated, so as to diminish or eliminate the infection underlying the catarrh. To accomplish this, salicylic acid has been found to be very effective. Cases in which it has been given showed noticeable improvement at once, salivation and sickness ceased within a week, with remarkable resulting improvement in the blood conditions in two weeks' time. In all cases local gastric antiseptics should be steadily used. When the intestinal symptoms predominate or occur from time to time, disinfectants such as the perchloride of mercury, calomel, blue pill or small doses of gray powder should be given.

Hunter, in the Index of Treatment, reported results of treatment with antistreptococcic serum in conjunction with other therapy. He writes that it is obvious that, if once the infection gets fairly rooted in the mucosa where mere local antiseptic treatment may fail to arrest it permanently, even when aided, as when possible it ought to be by the use of arsenic and by dietetic measures, the only indication for treatment, then, is to combat the action of the poison on the blood after its absorption.

Antistreptococcus serum was selected, inasmuch as observations have demonstrated the intensely infective (streptococcal) nature of the catarrh and the progressive character of the gastric changes which it produces. The serum treatment aims at the removal of the hemolytic and septic conditions which underlie the disease. The results of treatment in the cases reported by Hunter, in which oral, gastric and intestinal antisepsis combined with antistreptococcic serum were used, is interesting.

In the first case quoted the blood improved from 18 per cent. of corpuscles with 24 per cent. of hemoglobin, to 96 per cent. of corpuscles with 104 per cent. of hemoglobin in a period of forty-five days after beginning the serum treatment. In all eighteen injections were given in six weeks without ill effect local or general. A notable factor was a leucocytosis of 17,000 following this line of treatment. In a second case in three weeks the percentage of corpuscles rose from 27 to 65, and the hemoglobin from 35 to 75. In all four injections of 5 cc. each were given. In this case the patient had been seen early, i. e., a short time after any serious breakdown had occurred. In the third remarkable case the hemoglobin rose from 20 per cent., where it had been for over two months, to 60 per cent. in seven days and to 80 per cent in three weeks, with an increase in the opsonic index against the streptococcus longus from 65 to 85. In view of the possibility of a general reaction this authority recommends the use of small doses (five cc.) given a few days apart.

In the cases with severe gastrointestinal disturbances the use of hydrochloric acid should not be overlooked. In one of our cases apparent recovery followed the use of large doses (10 drops of the concentrated hydrochloric acid) three times a day. There was immediate relief from the gastrointestinal symptoms and the recovery was astonishingly rapid, in spite of the fact that the patient was apparently moribund when the hydrochloric acid treatment was begun. This patient had previously responded well to the use of arsenic but with the second attack, as often happens, arsenic was entirely useless.

As a curative measure in pernicious anemia splenectomy is of too recent date to hazard an opinion as to ultimate results. It cannot be assumed that, with the removal of the spleen, the specific cause of the disease is removed, and that pernicious anemia is called forth thru a hemolytic power of the spleen.

Moffet, of San Francisco, has collected thirty-one cases of splenectomy in pernicious anemia, eight of which died immediately or not long after operation. He states that it is difficult to define the results of splenectomy. In certain cases no benefit has been obtained; in others striking improvement has resulted, and cases were reported apparently cured after period of three to nine months, and in still others betterment in symptoms and blood pictures has been followed after weeks or months by a relapse. Decostelli says that splenectomy almost surely brings about an improvement, not only in the blood picture but in the general condition of the patient, but does not lead to a return to an entirely normal condition.

Blood transfusion has recently again come into prominence as a treatment of pernicious anemia and the immediate results are often striking. When this treatment is used, we recommend the simple citrate method. The proper blood test should always be insisted upon, unless the emergency be extreme.

Ottenberg and Libman, in reporting on blood transfusion in twenty-five cases of pernicious anemia, say that transfusion never cures, but is the best remedy and leads to remission in about one-half of the cases. They believe that the transfusion should be done repeatedly and that, when blood from one donor does not improve the condition, another should be tried, but if good results are obtained the same donor should be used as often as necessary. They report the best results in the slowly advancing cases. Recent and rapidly advancing cases have not responded so well. The improvement does not correspond to the quantity of blood used; sometimes marked improvement follows the transfusion of a small quantity of blood.

Summary. Etiology unknown, but infection should always be suspected. Alimentary tract is the most likely site of disturbance that produces the hemolytic toxin.

Most important points in the pathology are deposit of iron pigment in the internal organs, particularly in the liver; destructive lesions in the spinal cord, and thickening of the central arteries of the spleen.

Diagnosis. Early diagnosis must be made by repeated blood examinations, the high color index being the most constant blood finding.

Treatment by arsenic is the most effective. Hydrochloric acid in large doses and salicylic acid are often very effective in gastrointestinal disturbances accompanying the disease. HCl seems to have a curative action in some cases. Transfusion is often an effective measure particularly in the slowly advancing cases. Splenectomy is valuable in cases that do not show a tendency to improve under other methods of treatment. It helps the patient because it eliminates the hemolytic action of the spleen, which has become increased by the thickening of the central arteries.

In conclusion we wish to point out that it is difficult to judge the efficiency of any form of treatment on account of the tendency of the disease to periods of remission.

REPORT OF TWO HUNDRED CONSECUTIVE HERNIA OPERATIONS.

By A. Aldridge Matthews, M. D.
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I wish tonight to report this group of hernia operations, but fully appreciate that this number is a mere nothing, compared to the various reports from our numerous clinics of the country by individuals who have had much more experience in this class of surgery than myself.

In looking up these cases it has proved very interesting from several viewpoints. They extend back over a period of several years, and they show how impossible it is to get very accurate statistics, especially in this section of the country. By this I mean that we are in a comparatively new section and a large portion of our population are transients or not permanent for any great length of time, and, therefore, they cannot be traced. The old statement that "there are lies, damn lies and statistics" might well be used here if one were trying to compile such.

I made an effort to get in communication with each individual thru the mail, enclosing an explanatory letter, another sheet with a series of questions, a stamped and addressed envelope for return. Of these, 71 were returned as unclaimed or unable to locate; 44 letters reported cured, 1 recurrence, 1 condition improved; 48 reported in person as being cured. A number of the latter were people whom I would see and, upon asking if they had received my letters, their answers were such as this: "You see me pretty often, therefore, I did not consider it necessary to answer," or "you know, if I were not well, I would have come to see you direct." So you can readily see how difficult it is to get accurate data in these cases. This leaves 37 notices apparently received, from which I did not hear.

A. Inguinal 144	Right 76	Male 65
		Female 11
	Left 68	Male 58
		Female 10
B. Ventral 34	Male 13	
	Female 21	
C. Umbilical 11	Male 3	
	Female 8	
D. Femoral 10	Right 4	Male 2
		Female 2
	Left 6	Male 2
		Female 4
E. Internal 1	Reported in Northwest Medicine (November, 1916)	

In this series were 19 double hernia, 8 strangu-

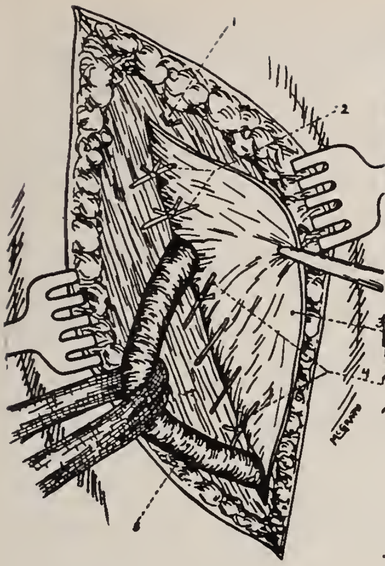

Fig. 1

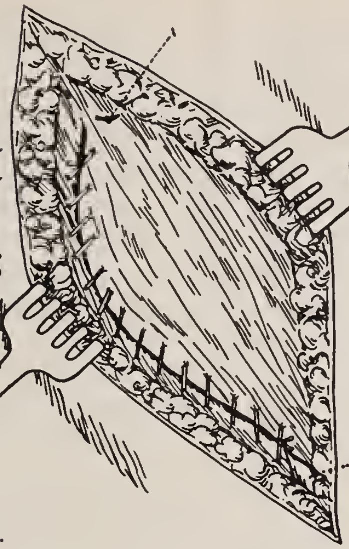

Fig. 2

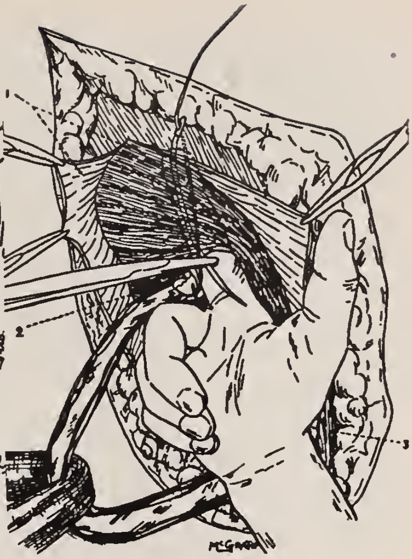

Fig. 3

Fig. 1.—Sutures in place. (1) Suture holding stump of sac up and against belly wall. (2) Sutures holding fascia of external oblique to shelving edge of lower part of same fascia. (3) Flap of external oblique. (4) Running stitch bringing down fascia of external oblique, internal oblique transversalis to shelving of Poparts ligament. (5) Cord.

Fig. 2.—Operation complete, showing overlapping of external oblique. (1) Suture holding stump of sac up. (2) Cord.

Fig. 3.—Showing finger guiding needle between the peritoneum and belly wall. (1) Aponeurosis of external oblique divided. (2) Hernial sac ligated. (3) Transversalis fascia.

lated. Ten of this number had been operated upon before; only in one of these had I done the previous operation.

I do not claim any originality in the manner of operation or preparation of these cases but the method used has proven very satisfactory to me. In a general way the method and precedure which I have as a whole followed is as follows: Provided they are healthy and there are no contraindications, they are sent to the hospital the afternoon of the day before the operation and allowed to have a light supper. About an hour before this meal they are given from one to two ounces castor oil; no fluid by mouth after 12 midnight; enema in the a. m., about three hours preceding the operation.

The field of operation is shaved and cleansed the night before with soap and water, washed with alcohol and then a sterilized dressing applied which is not removed until patient is asleep on the operating table; then washed again with alcohol, ether, and 3½ per cent. iodine solution in alcohol is applied. I find it is often necessary to call the attention of the assistants and attendants to the importance of preparing a large area, not limiting the field of operation to what they think is necessary. Under normal condition my anesthetic of choice is ether which is usually not preceded by a hypodermic of any kind.

My operation of choice in the inguinal hernia is a modification of the Bassini, somewhat similar to the Andrews, this being instead of bringing down the internal oblique transversalis conjoined tendon to a shelving of Poupart's ligament, as is done in the Bassini. I include the external oblique fascia in the same suture, starting from above as is done in the Andrews, pushing the cord well up before placing my first stitch. Then, instead of using an interrupted stitch, which I previously used, I make a running or lock stitch (fig. 1), bringing external oblique, internal oblique, transversalis, and lower down the conjoined tendon to the shelving of Poupart's ligament, being certain that the lower part of the canal is securely closed. Above the cord I place two interrupted sutures over the canal thru which the cord passes, making it fit snugly around my finger tip. The two sutures above the cord include the upper edge of the external oblique which is sutured to a shelving below of the same fascia. Suture used is No. 2, twenty day chromic gut. I leave, when possible, enough of the external oblique below so it can be brought over the cord which lies on top of my row of sutures closing the canal; this makes a new oblique canal for the cord. (figs. 1 and 2).

In the recurrent inguinal hernia I usually use linen instead of chromic gut. In treating the sac I have adopted a procedure which I do not think absolutely essential, but which seems to add a little more security. After ligating and removing the sac I separate the peritoneum a short distance from the anterior abdominal wall above the internal ring. Then, with a long needle threaded with the suture which ties the sac, pass it up eye end first about two inches guided by a finger (fig. 3), passing then thru the abdominal wall from within out, securing by catching some tissue and tying. When this suture is tightened it lifts up the area in the peritoneum in which the hernia orginally passed, preventing any depression.

In children the simpler procedures are just as effectual. That is, removal of the hernial sac will suffice, but I prefer using two to three sutures without transplanting the cord.

The ventral and umbilical hernias can well be spoken of conjointly. It is usual to find these cases in very stout people. Therefore they should be prepared before the operation, especially if the hernia is large, by putting them to bed and keeping hernial contents reduced if possible. An effort should be made to reduce the weight of these individuals, by doing which the operation will be made much easier, also the convalescence will be much safer for your patient. I am afraid the starving and purging of those cases is too often overdone, as one of the deaths which occurred in this series came after a protracted fast and purging, the patient losing a number of pounds but still being stout at the time of operation. He died the third day from what I now believe to have been acidosis, as a postmortem examination revealed nothing. I draw this conclusion from symptoms after looking up the records, as this death occurred several years ago.

In the ventral hernia, after the sac is removed, the plication or overlapping of the fascia is usually done. If such is not possible, the edges of the fascia are brought together. On two occasions in very large hernia a strip of fascia was cut from either side, turned in and sutured. (Coffey.)

In the umbilical hernia I always try to follow the Mayo method. In both ventral and umbilical I use interrupted linen in preference to absorbable material. In the femoral hernia, after removing the sac and clearing the canal of all fat, I close the opening with sutures of linen as close to the vessels as is safe, bringing Poupart's ligament down to the under tissue by passing the needle from above, bringing it out below, hugging the bone, using interrupted stitches.

In this series there were three deaths, one occurring on the third day following the operation, cause acidosis. This was a large ventral hernia above alluded to. The second, who died on the fifth day, had an umbilical hernia complicating gallstones which were removed. Intestinal paresis followed; later I did an enterotomy. I do not believe there was any peritonitis. A postmortem was denied. This case was a very stout individual, age 55. The third was an old man with a strangulated inguinal hernia who had fecal vomiting and was in extreme shock before being seen. Died a few hours following operation.

It would be folly to try to draw any conclusion in regard to the percentage of recurrences or cures, on account of being unable to get in communication with such a large number. There were two recurrences in the 92 cases from which I got returns. One was a young woman who had a ventral hernia following a suppurative appendix, the second a femoral hernia in a laborer whom I operated upon the second time and since has remained cured.

A word in regard to after treatment might not be amiss, which applies to any abdominal operative case. Do not try to purge the day after operation or for several days. If they are prepared properly there is no occasion for them to be molested in this respect, especially cases where the intestines have been handled, for there is always some paresis which is overcome by a little time and patience. The second, third or even fourth day is full time to be concerned and then they should be relieved by an enema, not calomel, castor oil or salts. I rely upon enemas in all my operative cases for the first four or five days or even longer.

The reason I am adding this is because I have been so often called in consultation, where patients were made miserable by physics of all kinds, causing nausea, vomiting and delay in convalescence to say nothing of the anxiety and discomfort to themselves and family. I was called a few days ago a good many miles from here to see a patient who had been operated upon thirty-six hours previously. She had been prepared by physics, etc., and now was being given two ounces castor oil every two hours till bowels would move. Before this she had been given a big dose of calomel in broken doses. I don't blame the poor soul for thinking she was going to die. This habit is surprisingly common to a great or less degree with the inexperienced and occasional operator.

THE SURGERY OF SPINAL TUMORS.*

By Milton G. Sturgis, M. D., F. A. C. S.
SEATTLE, WASH.

Three decades have passed since Gowers and Sir Victor Horsley recorded their successful diagnosis and extirpation of a spinal tumor. In these intervening years has come slowly the protracted evolution of spinal tumor surgery. The analogy to surgical progress in stomach and gallbladder diseases is not dissimilar. The fear of trespassing on the unknown, the disappointing results attending delayed operation, attending heavy handed surgery, the high mortality alike have retarded the successful dealing with this problem.

Only in the past few years has there been developed a comprehensive surgical procedure, one still in process of evolution but promising a brilliant future. How recent this is may well be emphasized by a statement appearing in a paper written in 1910, "as the extramedullary tumor alone offers the hope of successful extirpation, etc." Yet today intramedullary tumors are removed with almost as much success as those the writer designated. The symptomatology described in the older textbooks is perfectly explicit, as definite as that ascribed to gallstones in former decades, when jaundice, colic and pain in the right shoulder were the "sine qua non." Both were based primarily on pathologic studies and, as surgical experience has already clarified the atmosphere in the one, so surgical experience here is now broadening the interpretation, drawing conclusions quite at variance with former ideas.

To render easier a discussion of diagnosis I shall read you the two case histories, both of which are quite typical, the first one illustrating the localized extradural tumor, with radicular symptoms, and the second a classic case of intradural tumor.

Case 1. Male, twenty-nine, single. History negative until 1914, when he was treated six weeks for typhoid fever, having a slow protracted convalescence lasting several months. In April, 1916, following unusual muscular exertion, he had severe pains in the back, which kept him at home for two weeks. During May and June, while tenting in the mountains, he noticed that if the weather was hot he was free from pain, and could do any kind of work without either fatigue or distress, but at all other times he suffered from pain.

During July and August he was much better. Early in September he was seized with a spasm of the muscles of the back, suffering pain so severe that he was unable to reach home, but was taken into the house of a friend. On September fifteenth, while en route to a sanatorium for treatment, by the sudden jarring stopping of the train, he was thrown violently forward and, striking his left shoulder against an immovable object, his body was twisted to the right, producing excruciating pain and numbness in both legs. He was unable to walk and had to be carried to his bed. His left leg felt as if it were "wooden." He received massage and noticed that pressure along the spine in the small of the back produced pain. At this time he could sleep only on his back. There was some improvement after this, but there was a constant pain in his back, which became severe on laughing or coughing. So marked was this that, if he coughed while standing, he found it necessary to brace himself to keep from falling.

Examination is negative, except that the left lung shows prior tuberculous infection. This probably explains his "typhoid attack in 1914." Both knee jerks and cremasteric reflexes are increased. The plantar reflex slow in right foot; in the left there is a slight Babinski. Oppenheim and Gordon, occasionally slight reaction on left side. Epicritic sensation in the left leg is decreased from the region of the ilioinguinal nerve. He has slight right and left lateral spinal motion only. After leaning forward he climbs up his legs. Wassermann is negative. The x-ray shows a tumor on the left of the first lumbar vertebra.

At operation, under chloroform and morphine, hemilaminectomy was done on the first lumbar and the twelfth thoracic, the spines being preserved for the subsequent surgical procedure. The dura was not opened. A bone graft from the right tibia was inserted into the patient's back, using the technic of Albee. This patient suffered no pain whatever after the operation. He remained six weeks in the hospital. On leaving the reflexes and tactile sense were normal.

Case 2. This history is supplied by members of the patient's family who, without influencing suggestion or knowledge of tumor symptomatology, have written a description of a classical case, so clear that he who runs may read. Its chronology is perfect, and illustrates the great value of having the patient tell the history without questioning, for I personally was unable to elicit half as comprehensive a one. Because of its interest, the history is given without correction, and with but one addition.

History. Mrs. E. A., 49 years old. Her trouble started about four years ago (1912.) She would walk downtown, but on the way home would get such a tired feeling that it was necessary to take a car home. From this time there developed a pinching feeling in the left leg which lasted about two months. Following this the thigh, from the hip to the knee, was always cold but from the knee down there was a slight tingling sensation. About June, 1914, her condition was such that she could get around without much trouble, but the cold and numbness were gradually becoming worse, and both legs were beginning to feel heavy. At this period she had from time to time a girdle sensation at the level of the navel, so severe that it would almost snap her in two. The cramps first started in the legs, about December, 1914, being felt only in the legs at first, but later every cramp was felt in the back. In this condition she used a cane for about three months, then required crutches to get about. Following this there was a running and burning feeling down her legs, and the cramps, gradually getting worse, went up the spine until they reached the neck. Associated with this there were severe choking spells and a pain between the shoulder blades, where there must have been an area of hyperalgesia, for she screamed if this area was touched. At this same time she had spells of dizziness and fell several times. Later the choking sensation, and the neck pain and dizziness disappeared. All thru the case the left side was always the more affected.

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* Read before the Vancouver, B. C., Surgical Society, April, 1917.

Examination. Thermic and tactile sense lost below the fourth dorsal level. Epicritic sensation wholly absent; protopathic almost abolished, only the most primitive form remaining, and that much delayed. On pinching the skin she would, after two or three seconds exclaim, "There, there, that hurts, that hurts." It was as if the dammed back sensation suddenly swept over the obstruction, registering pain exaggerated and out of proportion to the stimulus. This could be elicited as far down as the middle of the thighs. There was a clonic contraction of the thigh muscles, particularly the adductors and flexors, later the flexors of the leg. The knee jerks were exaggerated; Babinski present in both feet. Ankleclonus, Oppenheim and Gordon varied, one or all positive at one examination, negative at another. She was much constipated; bowels moved only with aid. Bladder control remained, but the action was tardy. Wassermann negative both for spinal fluid and blood.

Operation, Sept. 30, 1915. The laminae of the first and second dorsal, sixth and seventh cervical were removed without finding the tumor. Then the lamina of the third dorsal was removed; no tumor was found, and no apparent obstruction to the passage of a probe either above or below the wound. The wound was closed and patient put to bed. During the first two or three days she complained of occasional difficulty in breathing which was accompanied by great rapidity of the heart action. There was a continuous relief from the most painful sensations; the girdle sensation disappeared entirely. This comparative relief continued until about the middle of December, when there began a gradual increase of symptoms.

On January first, in consultation, with Drs. Leede and Eagleson, it was decided that there must be a tumor above the region of my exploration. The patient was again removed to the hospital and operated upon the day following. The upper end of the incision was reopened; the dura located and opened; the fifth and part of the fourth cervical lamina were removed, disclosing the tumor, the lower end of which was against the dura, the upper end still firmly embedded in the substance of the cord. I thought at the time that we were dealing with an intramedullary tumor, but it was subpial only, tho held so firmly that its growth had extended into the cord. By reason of the decompression of the spine, the lower end of the tumor apparently had been born, following the first operation in October. This would account for the slight remission of her symptoms. However, the beneficial effects of the decompression had not extended to the upper end of the tumor. The pia was incised, the wound closed and the patient put to bed.

By reason of an infected stitch wound it was a month before we were able to complete the operation and then only by excising the whole infected tract. The tumor was found lying on the surface of the cord, the upper pole intimately associated with one of the posterior nerve roots, the lower pole adhered to the dura. (Figs. 1 and 1A). It was necessary to incise two of the posterior nerve roots. The tumor was lifted from its bed, being gently freed from its adhesions, except at the lower pole, where firm adhesion necessitated the removal of part of the dura. In doing this one of the small veins was wounded, the hemorrhage being controlled by packing with small cotton saline pledgets to better localize the tumor. It may be added that this pressure produced a temporary paralysis of the left musclospiral nerve. The dura was closed, the muscles approximated with catgut, and the skin closed without drainage.

The pathologic report on the tumor by Dr. William F. Whitney, of the Harvard Medical School, is as follows: "The specimen from a spinal cord. (T. 16.2-33) Feb. 21, consisted of a spindle shaped tumor 3.5 by 1.75 cm. (Figs. 2 and 3). On section it was firm and fibrous and at one end there was a small nerve fibre. Microscopic examination showed the growth to be composed of fibrous tissue, in places quite cellular, and scattered thruout which were small rounded concretions of lime salts. Diagnosis, fibroma with calcification. (Psammoma.). Convalescence was tedious and tumultuous. Her improvement was very slow but continuous, and now, a year later, she is without pain, is able to move about in bed, to care for herself; is able to move to the edge of the bed and sit up, but has to be helped to her wheel chair. Bladder and rectal control normal. The spasticity has disappeared, and the contractures are slowly yielding; sensation has returned in both legs. Judging from an opportunity of

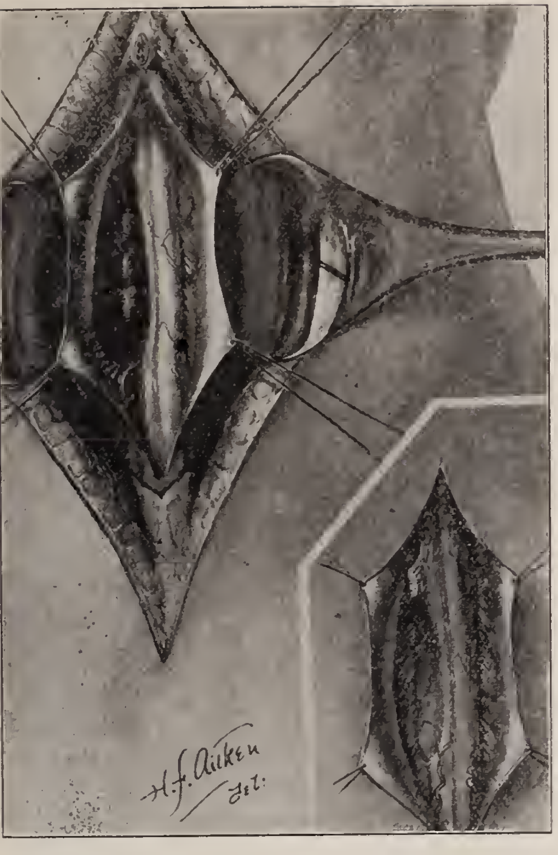

Fig. 1 Fig. 1a

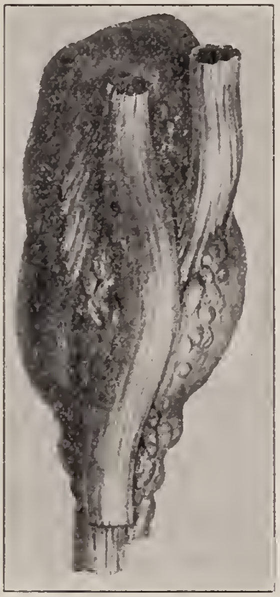

Fig. 2

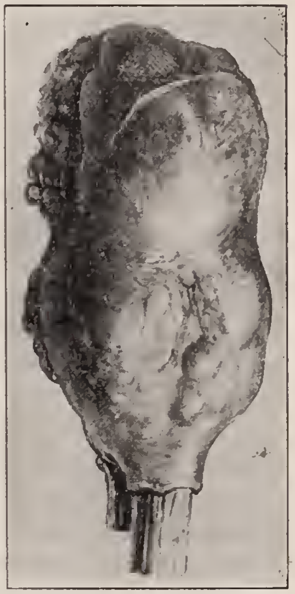

Fig. 3

Fig. 1.—Tumor lying on cord one month after incising pia.
Fig. 1a.—Shows depression in cord after removal of tumor.
Figs. 2 and 3.—Anterior and posterior surfaces of tumor, enlarged 2x.

watching a similar case operated in an Eastern clinic, she will finally be able to walk, first with crutches, then a cane and finally unaided.

These two cases illustrate very well the symptomatology of extra- and intradural tumors. In case 1, because of some inaccuracy in the history when first given, when it appeared that his symptoms dated only from his injury in September, the odd appearing tumor shown by the x-ray and the patient's youthfulness, the possibility of sarcoma was considered. Further questioning and examination proved this to be tuberculous. Extradural pressure in this case produced inconstant pain, a patchy loss of epicritic sensation in the left leg, most marked in the ilioinguinal nerve, increase of reflexes in both legs, but the establishment of the Babinski only in the left.

In case 2 we have the classic symptoms, progressive anesthesia, feeling of cold, muscular weakness first in one leg, gradually ascending, then involving the other; continually increasing and ascending pain finally definitely located between the shoulders, increasing muscle spasticity, and those transitory symptoms pointing to a cervical tumor, pain in the neck, a choking sensation, and the girdle sensation at the level of the umbilicus. This latter has been noted by Woolsey as present in all his cases of cervical tumor. There is but one thing lacking—the Brown-Sequard-Syndrome; the time for its detection had passed before I saw her, but from her own history it was probably absent.

In these cases the cardinal symptoms of tumor of the spinal cord were present, pain, progressive sensory and motor paralysis, with a definitely located upper pole, but nothing is more fallacious than the insistence that all these must be fulfilled. In both cases we are dealing with well established phenomena. The pictures are complete, as complete as that demanded in the old classic cases of stomach cancer, when emaciation, coffee ground vomitus and palpable tumor were demanded.

But here, as there, in order to obtain the best results, we must diagnose these cases before they have reached this final stage, and in order to do so we must take cognizance of certain facts, only recently emphasized. Especially must we bear in mind that, altho pain is a valuable symptom, its absence, if other symptoms be present, can be entirely disregarded. In some cases it is absent. In others, as in case 2, it appears only after a considerable period has elapsed from the beginning of symptoms, and then is referred to areas distant to the site of lesion. It may be inconstant; there may be periods of quiescence so extensive that the patient may forget its presence, or if not forgetting lay no emphasis upon it. It may be referred to the lung, to some one of the abdominal viscera or to the pelvic organs which may be diseased, and which may be subjected to unnecessary and, from the surgeon's standpoint, discomfiting surgical procedure. It has comparatively little value in differentiating between extra- and intramedullary tumors. Even when present it may show nothing characteristic.

The loss of tactile sense also is well illustrated in these two cases, case 1 showing interference only with epicritic sensation; case 2 showing almost total sensory paralysis, only the most rudimentary protopathic retained and that much delayed, but both showing definite upper poles of limitation. It is this upper limit of the faintest sensory interference which marks the level of the tumor, Horsley's rule being that it will be found ten centimeters above this level. That this rule is not infallible, however, is shown in case 2, where the upper pole was at the level of the fourth dorsal, while the tumor lay at the level of the fourth and fifth cervical vertebrae.

But as with pain, the hyperesthesia and paresthesia are inconstant. Their distribution may be irregular or patchy, may vary from day to day, or may appear in areas far removed from the tumor. Even in the presence of complete paraplegia sensation may remain intact. In the radicular types pure root anesthesia is uncommon, since at least three roots must be damaged. A single root may be entirely destroyed without causing the slightest sensory defect.

Tumors that lie in front of the dentate ligament will often cause little disturbance of the tactile sense but very marked diminution or loss of pain or temperature sense. The central tumors produce disassociation of sensation, marked disturbance of pain and temperature sense with only slight disturbance of the tactile sense.

The motor symptoms in case 2 are characteristic of pyramidal tract pressure—first the fatigue on walking, appearing on the homolateral side, the spasticity, the appearance of abnormal reflexes and finally clonic contraction. These may appear early or late, depending on the location of pressure exerted by the tumor. While they are almost always expressed by increase of reflexes, yet these may be entirely lost.

One notable phenomenon appearing in these cases was the variability of the reflexes, their ebb and flow. I have found no mention of this, but to me it seems pathognomonic.

Owing to the infrequency of anterior spinal tumors, primary motor symptoms are rare. When present the paralysis is dependent upon the extent of the tumor. A single root may be involved but the paralysis may be present for a considerable time before there is any change in electrical reaction. Lumbar puncture and examination of the spinal fluid removes, if negative, the delay for antisyphilitic treatment, and should be a routine procedure in the diagnosis of spinal tumors.

For much of the above I am indebted to Collins and Marks, and in the next paragraph, I will quote them verbatim.

The Criteria for Early Diagnosis. "First of all we must realize that pain and all other classic data are valuable but not essential phenomena, but that the essential element in the diagnosis is the determination of a gradual motor and sensory spinal paralysis, the upper pole of which, despite increase in cross section intensity, varies slightly if at all. In every case of so-called transverse myelitis, therefore, the possibilty of cord tumor should be considered. This applies to acute forms of myelitis of obscure origin as well.

"There is only one moral to be drawn. The diagnosis of myelitis of unknown origin is made far too often; exploratory laminectomy is not done often enough. In all doubtful cases we are not only justified, but it seems to us in duty bound to the patient to give him this chance. The danger of the operation stands in no relationship to the certainty with which he will otherwise succumb."

Technic. The newer treatment of this condition presents, I believe, the most interesting and most promising developments of recent surgery. The profession owes much to Dr. Charles Elsberg, for he has been the one who has contributed most to this progress. The steps of the operation are not difficult, and the dangers are not greater than exploratory laparotomy.

Incision may be made over or to one side of the vertebral spines; the fascia incised on either side; the muscles stripped free; bleeding controlled by packing. With ronguers the spine and laminae are removed until the dura is exposed.

The remaining lamina may be removed by ronguers or by a thin-bladed rib shears. If the tumor be extradural, it can be removed, altho it may be necessary to sacrifice some of the posterior nerve roots. The outer surface of the dura is not sensitive, but the inner surface is extremely so, very gentle handling producing pain.

If the tumor be intradural the dura is incised. Accompanying this there is usually a gush of cerebrospinal fluid, but no ill effects follow. If the tumor be extramedullary and posterior and not bound too intimately to the cord, it can be removed at this time. If it be anterior to the dentate ligaments, these, being insensitive, may be grasped with the forceps, cut and then used as a tractor to pull the cord to the opposite side. The posterior roots may have to be sacrificed, but this is without serious consequence. It may be that pressure is due to a varicose or abnormally placed vein which can be tied off and excised. It may be caused by angiomata which may be inoperable.

If the tumor be intramedullary, it should be first aspirated to make certain that we are not dealing with a collection of fluid. Then incision is made one cm. long a few mm. outside the posterior median fissure, at the spot where the tumor seems nearest the surface. The incision should be carried down to the surface of the tumor, if there be no bleeding, and then with a pair of fine pointed forceps the edges of the wound are gently spread. This is no place for heavy handed surgery, and all manipulation must be of the gentlest and most careful sort. The muscles are now brought together, the skin sutured and the patient returned to bed.

If the tumor is being extruded, there will be within a few days a marked improvement of symptoms. After the lapse of a week or two weeks the wound is reopened and the tumor, if extruded, is found lying free on the surface of the cord, held only by a few adhesions which may be gently severed and the tumor removed. All bleeding is carefully controlled, the dura sutured, the muscles approximated and the skin closed.

If the tumor has been a cervical one, it is best to immobilize the head and neck with a plaster cast. The patient should be returned to bed, being placed preferably on a water or air mattress, and especial care bestowed on the after treatment.

SUSPENSION LARYNGOLOGY.*

By W. G. Cameron, M. D., F. A. C. S.
TACOMA, WASH.

Until a comparatively recent time knowledge of the deeper structures of the neck, the larynx, bronchial tree and esophagus was exceedingly meager. There was no method by which the larynx could be examined in the living, the deepest view into the neck being the base of the tongue and the posterior oropharynx.

All that was known of the diseases of the air and food passages was gained by postmortem, and the study of their function was conjectural. What treatment given if any was essentially empiric, and sufferers from diseases of the throat were unable to find relief. Vast numbers of people in an otherwise apparently healthy condition, went thru life with loss of voice or markedly impaired function of speech. Those afflicted with tuberculous ulcers or obstructive growths in the air or food passages were doomed to a life of suffering until death came to their relief. The larynx more than any other part of the body was an absolutely blank page in the book of science.

The guide from this darkness of ignorance to the light of knowledge came, not from the ranks of the medical profession but from the stage. Senor Manuel Garcia was a great singer and teacher of music, son of a distinguished composer and tenor, brother of two of the greatest singers of all time, Marie Malibran and Pauline Viardot, and the instructor of the great Jennie Lind. Garcia, tho an opera singer, in early manhood worked in the military hospitals in Paris and so gained some knowledge of medicine. In order to perfect his voice and help him in instructing others he used his medical knowledge in the study of the human voice and, in 1840, sent a paper to the French Academy on the "Physiology of the Human Voice," which was the best study of the subject in his time and indeed was the foundation of all similar investigations since.

His discovery of the laryngoscope, in 1845, was the result of an accident rather than deliberate experiment. In a Paris shop he chanced to find a small mirror attached to a stick. The idea occurred to him that he might see his own vocal cords. So, with a ray of sunlight shining in his throat, he held the mirror on a stick in his mouth and in a looking glass beheld his own vocal cords in action. Garcia lived to the age of 101 years. Upon the centenary of his birth, in 1905, occurred a gathering wholly unique. At the Royal Medical and Surgical Society of London delegates from medical and musical societies from all over the world, including Africa and Japan, met to do him honor. The king of England conferred upon him the order of Victoria. The king of Spain sent a decoration, and the German emperor presented him with the gold medal of science. A group of laryngologic societies engaged the distinguished artist Sargent to paint his portrait, which was here presented to him. Tho one hundred years of age, he responded to the numerous toasts, gave a lesson in singing and read his original treatise on the human voice, written a half century before.

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*Read before Pierce County Medical Society, Tacoma, Wash., Feb. 26, 1918.

While Garcia used the laryngoscope in his studies and published his discovery to the world, it attracted but little notice in the medical profession. A printed controversy, in 1861, between Türck and Czermac, each claiming the invention of the laryngoscope, brought it more prominently to attention. Gradually use was made of the new method and, as diagnosis was made possible, many advanced men turned their powers of observation to the new and hitherto unexplored region.

At first the new instrument was used solely for diagnosis. It was not long, however, before reports began to appear telling of the treatment of ulcers and removal of tumors, and in the late seventies the beginning of the new specialty of laryngology was made by the establishment of special clinics for the treatment of diseases of the throat in various medical centers of Europe. Munich and Vienna had a wealth of material and attracted large numbers of students, but London was the chief center of the new science, owing to the engaging personality and brilliant work of Morell MacKenzie, who had charge of the new hospital for diseases of the chest and throat. The instruction given was very little, but there was a wealth of material and the student could pick up the subject by himself. All their attention was given to the throat. The nose was not treated or even examined, unless the stench from a particularly offensive ozena caused the doctor to douch that cavity to relieve his own olfactory organ. If a polyp caused complete obstruction, it was torn out with forceps and the nose forgotten until the patient had a return of his affliction. No attention whatever was given to obstructive breathing, septal deflections or diseased turbinals, while knowledge of sinus disease was nothing until the nineties. Tuberculous ulcers were very common in contrast to today, and these cases constituted a large part of each clinic. The relief of these patients' sufferings was great and their gratitude corresponding. Papillomata and benign growths were removed with restoration of the function of speech.

In the light of our present knowledge of malignant disease their treatment of cancer seems terrible. It consisted of doing a tracheotomy and inserting a tube. After that the growth was removed piecemeal thru the mouth with biting forceps. In consequence the growth was stimulated into greater activity and the patient became worse and worse and death came much sooner than had he been left alone.

By the earnest, conscientious work and keen clinical observations of these pioneers, diagnosis was made more exact and a technic was developed which placed laryngology upon a high plane and relieved its practitioners of the odium with which they had been previously regarded by their brothers in medicine. Brilliant as were the successes in this field, indirect laryngology left much to be desired. The removal of growths and treatment of ulcers was a long tedious process. As but a small part could be removed with biting forceps, many settings were required. This called for great perseverance and good throat control on the part of the patient. In nervous cases or those with irritable throats it was necessary to have a course of preliminary training in interlaryngeal manipulation before operative measures could be attempted. On account of these difficulties work in children was almost impossible. Even in the best of patients one was compelled to work around a corner, as it were, with curved instruments. One hand only could be used, as the other was required to hold the mirror. Then, too, the view of the larynx in the mirror is reverse, and this must be taken into account in movements of the operating end of the instrument. This required great manual dexterity and it was the exceptional man who became a good operator.

All laryngologists realized the disadvantages under which they worked and many were the endeavors to improve the technic. In 1896 Kirstein saw the interior of the larynx by direct view with the aid of an elongated tongue depressor. To Gustave Killian, then of Freiburg, must be given the credit of giving us direct laryngoscopy. The next year after Kirstein's discovery, Killian changed the flat spatula into tubular form and his writing and teaching brought them into general use.

This marked a great advance. One was now enabled to see the larynx without the aid of a mirror and study it from a view which gave a much different picture than before. The instruments now used were straight and manipulation not so difficult. The control of the patient was much greater than in the old method and it was possible to examine and operate upon children. Kirstein, Killian and Bruning used reflected light thrown from either a head mirror or head lamp.

In 1902 Einhorn devised a crude instrument by which he examined the esophagus. This instrument had a light on its distal end.

In 1905 Chevalier Jackson, of Pittsburg, combined the lighting principle of Einhorn with the Killian tube and gave us our present day laryngoscope. He, also, with his great genius, gave us the bronchoscope and esophagoscope, and made possible the removal of foreign bodies from the bronchi and esophagus and the study of their diseased states.

To that master mind in nose and throat work, who had already given us the radical operation on the frontal sinus, submucous resection of the nasal septum and direct laryngology, Gustav Killian, we must now look for a further advance. I give you his own words. "Over the portals of the Anatomical Institute, at Freiburg, are written in golden letters: The dead are teachers of the living." This expression may likewise be applied to suspension laryngoscopy which originated in the Freiburg Anatomical Institute, as a result of observations on the cadaver.

Killian realized the fulfillment of his wish when two years later he was able to present his gallows and suspension outfit to the world. In so doing he has opened a new era. No longer will the operator suffer from fatigue, as he holds the laryngoscope with his left hand, while he has but one hand with which to work, catching fleeting glimpses of the operating field which is obscured by blood and secretions. Instead he sits at his ease, with his field of operation in full view. Both hands are free and he is able to sponge away that which obscures his view and, better still, he may dissect out his growths instead of tearing them loose and even suture the laryngeal mucous membrane, as has been done by R. C. Lynch, of New Orleans; to whom we are indebted for an improvement on the Killian apparatus, which gives a larger view and is easier to manipulate.

By the use of suspension we are able to treat affections of the air passages in a rational surgical manner. Many diseases which heretofore required a thyrotomy or laryngofissure are now operated upon by aid of suspension with no external wound and a consequently quicker and safer convalescence. With a more widespread use it will be an aid to diagnosis of those conditions of the air and food passages which have hitherto been obscure.

MULTIPLE PAPILLOMA OF LARYNX.

F. P., age 46. Referred to me by Dr. Quevli. Family history. No tuberculosis or malignancy. No throat disease. One sister has goiter.

Four years ago he noticed that his voice was growing husky. This condition grew gradually worse and within a year he was unable to hum or sing. For two years past he has been unable to speak except in a hoarse whisper. There has been no pain except that caused by the effort to talk. No loss of weight.

Jan. 17, 1918. Examination of lungs by Dr. Quevli. Tonsils hypertrophied with diseased crypts. Slight deflection of nasal septum with moderate hypertrophy. Submaxillary glands enlarged, due to tonsils. Superficial and deep cervical glands not affected. No swelling over external surface of larynx. Indirect laryngoscopy. Aretynoids normal, cords white, freely movable. On edge of middle right vocal cord is a small tumor which looks like papilloma. One situated on lateral wall above cord, one on left cord and one below cords.

Jan. 22. Suspension under ether, Tacoma General Hospital. Tumors attached to cords seized with forceps and dissected free with knife. The one on lateral wall could not be seen on account of bulging of tongue. This was located by use of a Lynch mirror and removed with biting forceps.

Jan. 23. Dr. Griggs' laboratory reports growth removed to be papilloma. Patient left hospital in three days and one week later, when examined in office, voice was much improved but still a little husky. Examination showed branch of papilloma far forward in anterior commissure.

Feb. 16. Suspension under ether. Had larynx well jacked up and obtained good view of anterior commissure. Growths were removed with forceps, knife and snare. Patient returned home on second day. No pain except slight stiffness of jaws. Voice strong and resonant.

NORTHWEST MEDICINE
The Journal of the State Medical Associations of Oregon, Washington, Idaho and Utah.
Devoted to the Interests of the Medical Profession of the Pacific Northwest.
Editorial Office, 1011-12 Cobb Building, Seattle, Wash.
APRIL, 1918.

EDITORIAL

Food
Food
Food
Food
Food
Food
Food
KEEP it COMING
"We must not only feed our Soldiers at the front but the millions of women & children behind our lines"
Gen. John J. Pershing
WASTE NOTHING
UNITED STATES FOOD ADMINISTRATION

FOOD WILL WIN THE WAR.

While the medical profession is not in a position directly to effect a saving of food among the people at large, they can do so indirectly in the practice of their profession. We are urged to call their attention to the scarcity of the stocks of sugar, alcohol and glycerine. In the practice of medicine these are largely consumed in the preparation of infusions, decoctions, elixirs, syrups, fluid extracts and tinctures. Physicians are urged to prescribe medicines, as far as possible, in solid forms, such as capsules, pills and active principles. The choice of the form of medicines rests practically with the physician. If the body of the profession were to observe this request, there would be an enormous amount saved of the substances above mentioned. If the matter could become a subject of discussion among the members of the medical societies, this action could very well become universally adopted.

AN UNNECESSARY WAR WASTE.

For the past two years or more the eastern part of the country has been persistently canvassed and deluged with the advertising propaganda of one of the latest quack medicines called Tanlac. The Pacific Northwest has been caught in this exploiting net during the past few months. The pernicious effect of this quack medicine campaign was recognized equally by the medical profession and other observers of this sort of advertising. The fact that the daily press of Seattle for a time donated whole pages to this nostrum was an indication of the bank account behind it. The whole campaign was so malodorous that representatives of the King County Medical Society and the censorship committee of the Press Club, which has done valiant service in protecting the people from advertising impositions, joined in a protest to the papers of the city against thus aiding in filching dollars from the pockets of the unoffending public. The promotor of this nostrum in the Northwest stated that sixteen car loads of the stuff had been brought into this territory and this in the face of the demand for cars to ship lumber and other war necessities. The inconsistency of the press is shown by its urgent editorials to the public to buy Liberty bonds and thrift stamps, while at the same time trying to persuade them thru its advertising columns to invest their savings in this harmful nostrum. It is advisedly designated harmful, since on analysis it is shown to contain 17 per cent. of alcohol, together with a little glycerine and tonic drugs. The daily press is the greatest force in the country to influence public opinion. In the urgency of these war times why should it prostitute itself to such a systematic effort to rob the public of money which should go to the support of the government. Without its pages being used for advertising such a nostrum its widespread sale would be impossible. It is to be hoped that all influences for war economies will unite to prevent such a waste as this.

SYPHILIS AND TRUTHFULNESS.

One frequently hears it said that "all syphilitics are liars." The foundation for this almost popular medical belief was doubtless the large number of persons who presented clinical evidences of syphilis, tho they denied infection therewith. There was and is to most people something loathsome and shameful about this disease and it was but logical to assume that denial of it in the presence of clinical evidence was falsehood; hence the alleged axiom. The number of known syphilitics is increasing daily, due largely to the diagnostic merits of the Wassermann test which is being reported positive in many cases often on patients who almost passionately deny the possibility of infection. Does this confirm the belief that they are liars? Far from it. It proves instead only that syphilis frequently occurs without the knowledge of its victim. Those who know that they have been infected are usually quite willing to discuss the disease with their medical advisers, for they realize its potentialities for harm and desire to be cured. There is no more tendency to conceal it than there is to conceal gonorrheal infection. But it is true that a large percentage of syphilitics are unaware of the disease until it is discovered perhaps accidentally as part of a routine examination. This is especially true of syphilis in married women, by whom the infection has been overlooked for reasons as numerous as they are obvious. It is probable that from fifty to seventy-five per cent. of the female victims of syphilis are unaware of it often for years and not infrequently forever.

It is true also that many men have been infected without discovering it. Men often almost cheerfully admit gonorrheal or chancroidal infection but become indignant when told that they may be syphilitic, even tho they have some disease of which syphilis is the usual cause. Such men will often say to the physician, "Oh, yes, I have had gonorrhea several times and once I had a sore which the doctor said was chancroid. Of course you may make a blood test but I don't intend to worry about that. Why, every little cut I have heals like a scratch on a baby." Popular ideas on the subject indicate to them that this is conclusive proof of freedom from even the possibility of syphilis. And when a four plus Wassermann is reported, they are horrified beyond words.

Denial of infection with syphilis does not prove its absence, neither does it indicate that the patient lied when the Wassermann test is found strongly positive. With a considerable class of men who deny ever having exposed themselves to the possibility of infection, especially the type of men who married early and have been devoted husbands and fathers, denial is presumptive but not conclusive evidence of freedom from the disease. Denial of infection by those who have positive Wassermann reactions indicates in many instances either complete innocence of any infection, or that some physician has made the unfortunately common error of diagnosing a chancre as a chancroid, thereby depriving the patient of the all but vital early treatment, and setting his mind at rest until his nervous system or viscera have been invaded, many times beyond the possibility of repair.

USELESS OPERATIONS FOR VARICOCELE.

It is well known that there is no complaint to which man is subject that can be so easily used to "work" a patient for a needless operation as varicocele. This has in the past been a source of boundless revenue for the advertising quack doctor. In fact, the opinion has prevailed quite generally among the profession that, when this condition passes moderate bounds, operation can well be considered or even recommended. Hitherto admission to the army and navy as well as West Point and Annapolis has been conditioned upon removal of this supposed disability. Bloodgood has recently called attention to the evidence against operation for varicocele and the fact that such a procedure is rarely if ever necessary. As a rule the condition spontaneously disappears and with few exceptions is not found after the age of thirty. The danger of an operation being followed by hemorrhage, thrombosis, hematoma and epididymitis is a strong argument against it, as well as the possibility of the subsequent development of hydrocele. He is of the opinion that surgeons should discard this operation except in cases where the huge size of the vein disqualifies for military service. Such positive views should cause every surgeon to consider well before advising operations of this nature.

PENALIZING EXPERIENCE.

One of the penalties of increasing age in certain forms of practice of medicine is a diminished income based upon the individual case. Diagnosis of many diseases becomes easier with increasing experience, and after a time one is able not infrequently to make a diagnosis at a glance. When a diagnosis and an opinion based thereon is quickly given, it often impresses patients as being too easy to be considered worth much. The beginning practitioner finds himself, in order to differentiate between diseases, obliged to go into an immense amount of detail. He has to put his patient thru prolonged and meticulous examinations and in obscure troubles has to read and study at length. As age and experience increase such cases repeat themselves and diagnosis grows simpler. The average patient pays not for accuracy of opinion but for the amount of time spent in reaching it. The physician, who visits him twice daily and who tells him his particular case is an unusual one and requires much time, tickles his vanity and when he recovers he is willing to settle on the basis of the number of visits and the actual time expended, while the physician who, thru long years of practice, can and does come to a conclusion quickly, especially if he recognizes the futility of therapy, may create the impression of carelessness and indifference, and a much smaller fee than the one charged for many useless visits may be considered exorbitant.

These comments are not intended to discourage thoro examinations. If a diagnosis cannot be made without, they cannot be too thoro. Conversely, hasty examinations and snap shot diagnoses are to be discouraged, regardless of the experience of him who makes them. Every physician will be the better for following some sort of routine which will insure that he overlooks no details. Not the least of his reward will be the financial one. Nevertheless, older physicians sometimes find it hard to make examinations which in their hearts they know are not necessary to enable them to give an accurate diagnosis and a reliable prognosis.

WEIGHING AND MEASURING CHILDREN.

The physical examination in the first draft caused the rejection of one-third of the men for physical defects, many of which were believed to date from some slight neglected troubles of early childhood. This has caused the Child Welfare Department of the Women's Committee of the Council of National Defense to undertake a systematic examination of the physical condition of the children of the nation. It is believed that the height and weight and their relation to each other are a rough index of a young child's health and development. If the child is strikingly below the average weight or is small for his height, there must be some error about diet and daily care. This condition can be most easily checked up by keeping a record card of weights and heights during the first few years of life. These tests will constitute the first feature of Children's Year which begins April 6. Record cards will be issued, recording the weights and heights at birth and for every month from the sixth to the forty-eighth and every year from five to sixteen. One-half the card is to be retained by the parents. It is hoped that many parents will take advantage of this test by communicating with the local chairman of the Child Welfare Committee of the State Council of National Defense. It is believed these measures will help to save the lives of 100,000 children before April 6, 1919, which is the announced purpose of those interested in this movement.

CHICAGO MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

This meeting will be held in Chicago next June and is expected to be most interesting and profitable. The attention of physicians who expect to attend is especially called to the schedule of clinics which will occupy five days previous to the Association meeting. They will cover every phase of medicine, surgery and specialists and will be conducted by our greatest clinicians. Details of these clinics will be published from time to time. The purpose of this announcement is to call attention to them and to emphasize the value and profit to be obtained therefrom.

MEDICAL NOTES

OREGON.

New Health Officer. Dr. H. J. Kavanaugh has been appointed health officer of Pendleton in place of Dr. H. H. Hattery, who has resigned to accept a captain's commission in the medical reserve corps.

Dr. Katherine Schleff has located in Klamath to care for the practice of Dr. R. R. Hamilton, who has left for army service.

Lieut. G. S. Whiteside, U. S. N., of Portland, has been assigned to the navy hospital at Norfolk, Va., after serving for a time in the hospital at Bremerton, Wash.

Dr. G. G. Gaunt has moved from Hardman to Portland.

WASHINGTON.

New Enlistments. Since our last issue the following names have been received of army enlistments of Washington physicians:

Carter, P. D., Port Townsend
Couche, J. D., Twisp
Dewey, L. S., Okanogan
Engels. C. F., Seattle
Fick. E. P., Seattle
Hurd, E. T., Seattle
Kantner, W. C., Seattle
Knott, H. J., Seattle
Lyon, R. H., Bothell
Lapidrewski. C., Seattle
Marcy, G. E., Montesano
Matson, W. W., Tacoma
Randolph, H. C., Aberdeen
Taylor, C. L., Sumner
Wick, W. W., Sumner
Wilcox, C. C., Vancouver
Wilt. F. T., Steilacoom

Base Hospital to Mobilize. Orders have been received for immediate mobilization of Base Hospital No. 50, University of Washington, at Camp Fremont, Palo Alto, Calif., under the direction of Major J. B. Eagleson, of Seattle. The twenty-five physicians of the organization are mostly from Seattle and Tacoma. There are 152 enlisted men in the unit and 100 nurses, most of them from the Puget Sound region, but other parts of the state are represented.

Hospital Unit at the Front. Hospital Unit C, from Spokane, under the direction of Major S. E. Lambert, has left training camp McPherson, Georgia, and sailed for France. The physicians, nurses and assistants come chiefly from Spokane.

New Health Officer for Tacoma. Following the resignation of Dr. H. G. Hards, Dr. E. A. Layton has been appointed health officer of Tacoma and will devote his full time to the work of this office. Owing to an epidemic of contagious diseases of that city, the doctor anticipates strenuous work for the near future. He has been promised a full corps of assistants to suppress all epidemics of disease. The city council has appropriated sufficient funds to meet all the requirements of the office.

Abolish Evening Office Hours. The physicians of Everett have generally followed the rule of maintaining evening office hours, tho the rule has long ago been abolished by the physicians of most cities. They have now united in the announcement that hereafter office hours will terminate at 7 p. m. except Saturday evening.

Discredit Medical Aid Law. The Medical Aid Board of the Industrial Insurance Commission charges that certain contract physicians are attempting to interfere with the operation of the State Medical Aid Law and to discredit it among workmen. It is claimed they have discouraged workmen with minor injuries from filing claims and assert that fees are collected for services from workmen entitled to treatment under the Medical Aid law.

Service Flag for Medical Society. The Commercial Club, of Tacoma, has presented a service flag to the Pierce County Medical Society with impressive ceremony. The honor roll of the society contains thirty-two names of members in various branches of the government service.

Sanatorium Filled with Patients. The annual report of the Edgecliffe Tuberculosis Sanatorium, of Spokane, shows that 118 patients were admitted during the year. Of this number 13 were discharged as arrested and 12 improved. There is a good sized waiting list of patients who can not be accommodated.

Epidemic of German Measles. Seattle has been visited the past month with an unprecedented epidemic of German measles. An average of 75 cases a day have been quarantined and yet this hostile epidemic continues. While not an alarming disease it is decidedly annoying if the parents chance to contract it as well as the children.

A Community Hunting a Doctor. It is not common for a community of 5,000 to send out a hurry call for a doctor to settle among them. Winthrop and the surrounding country, in the Methow valley, is in such a situation, since its only physician, Dr. Couche, has enlisted in the army and the people of that region want somebody to take his place.

Skagit County Medical Society held a meeting at Sedro Woolley last month, when the following officers were elected for the ensuing year: President, Dr. George Boynton, Mt. Vernon; Vice-president, Dr. A. F. Brooks, Sedro Woolley; Secretary and Treasurer, Dr. H. D. Brown, Mt. Vernon.

Drs. M. D. Wood and R. L. Ghering, formerly of Spokane, have located at Hillyard.

Dr. M. R. Stoltes has moved from Colville to Chewelah, where he takes the practice of Dr. W. L. Von Nahmen.

Dr. W. H. Wimberly, who has practiced for some time at Ellensburg, has moved to Toppenish.

Dr. F. A. Bryant, of Colfax, who has served as County Health Officer, left for Portland for service in the signal corps.

Dr. J. W. Edwards, of Port Townsend, has left for the Orient as medical officer on the steamship Senator.

Dr. R. C. Kirkwood, formerly in charge of the Lakeview Sanitorium, in Pierce County, has been given the rank of Captain and is now serving in the army tuberculosis hospital, Ft. Bayard, New Mexico.

Dr. W. A. Hibbs, who has practiced for several years at Sequim, has returned for practice to Seattle.

OBITUARIES

Dr. L. P. Waterhouse, of Spokane, died February 28, 1918, of senility at the age of 86. He formerly practiced in Indiana and came to Spokane forty years ago. He was the first coroner of Spokane county.

Dr. William Montgomery died at Spokane of apoplexy, March 13, 1918. He was a pioneer physician of Grangeville, Idaho, where he located twenty-five years ago after practicing for some years in Missouri. Recently he has lived in Montana except for spending part of his time in Spokane.

MAXIMUM FEE SCHEDULE

ADOPTED BY THE STATE MEDICAL AID BOARD OF WASHINGTON.

These fees will apply only to injuries sustained on or after April 1st, 1918.

Bills must be itemized showing the date of each visit, dressing, or operation and charge for each.

Fees covering daily dressings shall not be paid unless the nature and extent of the injury as shown by the proof on file clearly indicates the necessity for same.

This fee schedule includes all dressings, unless the case shows that an excessive amount of material had to be used. In that case it will be paid for at cost.

Surgeons will not be paid from the medical aid fund for accompanying injured workmen to a place of suitable treatment, as all expenses necessary to get the injured workman to a place of suitable treatment is a direct expense upon the employer (see Sec. 6604-35).

All dental work made necessary by the accident must come into the department as a regular claim. and a showing of the necessary work and the amount to be paid for it taken up with the Medical Aid Board prior to having the work done (Rule 22).

Mechanical appliances are not provided.

Medicines. Bill must be accompanied by a copy of the prescription for checking purposes.

First visit to place of injury, including dressing not otherwise specified	$2 50
Night	4 00
(These charges will not be allowed in flat fee cases.)	
First office visit, including dressing	2 50
Subsequent visits at office or hospital. including dressing	1 50
Subsequent visits at home, including dressings	2 00
Mileage beyond corporate limits of city (one-way mileage):	
Day (additional)	75
Night (additional)	1 00
(Day meaning 7:00 a. m. to 9:00 p. m.)	
Assistant to surgeon at major operation	10 00
Assistant to surgeon at minor operation	5 00
Anesthetic, administering general, by an M. D. only	5 00
Anesthetic, administering general, by an M. D. only at a major operation	10 00
Consultation when authorized by Commission	5 00
X-ray (two exposures when required):	
Hands or feet	4 50
Leg, shoulder, or arm	5 00
Fingers and toes	4 00
Pelvis or hip	7 50
Spine or head	10 00

Rule 25. X-ray plates to be paid for must be forwarded to the Industrial Insurance Commission at Olympia, properly packed and shipped by express. Plates destroyed in transit will not be paid for.

N. B. Repetition of a large number of plates will not be considered necessary, nor of normal side for comparison.

Operations, minor, such as suturing ordinary cuts, lacerations, etc., total (if infected add necessary dressings)	$5 00

FRACTURES.

(Including reduction and subsequent treatment)

In a case where multiple fractures occur the fee shall be the major plus an additional fifty per cent. of the fee prescribed for each of the others as herein classified.

In a flat fee case that is transferred to another surgeon, one fee only will be paid, proportioned at the discretion of the Medical Aid Board.

Femur	$75 00
Patella	50 00
Clavicle	30 00
Radius and ulna	45 00
Radius or ulna	30 00
Humerus	45 00
Finger or toe	10 00
Carpal bones	20 00
Metacarpals	10 00
Pelvis	55 00
Tibia	40 00
Fibula	25 00
Tibia and fibula	60 00
Scapula	25 00
Jaw (not including dental application)	20 00
Nasal bones	10 00
Ribs	10 00
Foot (tarsal bones)	35 00
Metatarsals	20 00

Fractures, Compound. An additional charge of 30 per cent. may be added in cases of infected compound fractures.

Unoperated Complicated Fractures in which union does not take place within ninety days, an additional charge may be allowed at the discretion of the Medical Aid Board.

Autogenous bone graft when necessary (to be taken up with the Medical Aid Board prior to operation)	$100 00

DISLOCATIONS.

(Including reduction and subsequent treatment)

In a case of more than one dislocation, the fee shall be the major one plus an additional 50 per cent. of the fee prescribed for each of the others as herein classified.

Hip	$45 00
Wrist	15 00
Finger or Toe	5 00
Lower Jaw	10 00
Shoulder	25 00
Elbow	25 00
Ankle	25 00
Knee	25 00

AMPUTATIONS.

(Amputation and subsequent treatment)

In a case of more than one amputation, the fee shall be the major one plus an additional 50 per cent. of the fee prescribed for each of the others as herein classified.

Foot, Ankle or Leg	$45 00
Leg above knee	60 00
Hand, Wrist, Forearm or Arm	45 00
Finger or Toe	10 00
Arm disarticulation at shoulder joint	60 00
Hip disarticulation	80 00

CELLULITIS AND DEEP INFECTIONS.

(Operation and treatment to recovery)

(a) Wrist-joint and deep fascia on hand	$25 00
(b) Where it spreads to forearm	35 00
(c) Very bad case, lasting over six weeks (a week)	7 00
(d) Cellulitis of thigh, axilla, neck or face, not over two weeks	25 00
Subsequently (a week)	7 00

MISCELLANEOUS.

Treatment and first dressing, of lacerated wounds of soft parts, tears, burns, scalp wounds, sprains, strains, contusions, bruises, arresting hemorrhage, removing foreign body from cornea, etc	$2 50

Cuts, contusions, etc., of other members will be considered a part of the major injury and not considered separately.

Post-operative work to be paid for must be taken up with the Medical Aid Board, and fee decided prior to operation.

Ruptured urethra, requiring drainage by surgical operation, including subsequent treatment	$55 00
Strangulated hernia, radical operation, including subsequent treatment	50 00
Abdominal, exploratory only	50 00
Injury to internal organs requiring operation.	75 00
Operation requiring resection of bowel	125 00
In case of major injury where the injured person is transferred to another locality for hospital treatment, the physician rendering first aid may present his account for a fee of	5 00
Iridectomy, including subsequent treatment.	60 00
Enucleation eye and subsequent treatment.	40 00
Fractured skull, no brain symptoms, no operation	10 00
Fractured skull, brain symptoms, no operation necessary	35 00
Trephining skull and subsequent treatment.	60 00
Removal of steel from eye by giant magnet and all subsequent treatment	50 00
Laminectomy and subsequent treatment	100 00
Special nurse fee, per day	4 00

A proportionate fee will be fixed by the Board in any case mentioned in the schedule which terminates fatally within seven days after accident.

For operation or other treatment not herein specified, a proportional fee on the above basis will be allowed at the discretion of the Medical Aid Board.

BILLS.

Separate bill must be presented by each surgeon, assistant, anaesthetist, consultant, hospital or special nurse, as the files in this office must show that payment was made to the party who rendered the service.

REPORTS OF SOCIETY MEETINGS

KING COUNTY MEDICAL SOCIETY.

Pres., H. E. Allen, M. D.; Sec., L. H. Maxson, M. D.

The regular meeting of the King County Medical Society was held at the Metropolitan Lumbermen's Club, Seattle, Wash., March 4, 1918, at 8:05 p. m., Vice-President Lippincott in the chair.

Pathologic Specimens.

Tuberculosis of the Kidney. Dr. C. F. Davidson showed this specimen, almost accidentally encountered in an hysterectomy. The pathologic findings were clear, tho it had given no symptoms.

Osteitis Deformans. Dr. H. J. Knott showed this case in a patient of thirty-six, begun at the age of ten. Various means of medication had been tried, including all kinds of glandular therapy without results.

Papers.

Paralytic Ileus. By Dr. R. D. Forbes. Special reference to gunshot wounds of the abdomen, illustrated with diagrams. It is better to repair fifteen small perforations than to show a resection of the bowel. End to end anastomosis better than lateral. Resect widely above the gangrenous area. Milk the toxic condition of the enlarged bowel down into normal bowel below obstruction. Eserine the best drug to prevent ileus, 1/40 grain being given every hour for three doses.

Dr. Sharples emphasized that it is drainage in one direction or the other that prevents paralytic ileus.

Dr. Forbes, in conclusion, said the poisons are generated in the duodenum and jejunum and drainage should be performed high up in the small intestine.

Some Factors in the Safety and Comfort of a Surgical Patient. By Dr. L. H. Maxson. He emphasized the necessity of protecting the patient by proper room temperature, thick padding, adequate coverings and freedom from unnecessary exposure to prevent so-called ether pneumonia. Discussed by Drs. J. C. Moore and H. D. Dudley.

A letter was read from Dr. R. France, suggesting collective bargaining, especially for automobile tires and gasoline. Dr. Dudley said this general question had already been discussed by the Service Bureau Committee and cited facts to show how great was the purchasing power of the society as a whole. It was voted the matter be referred to the Service Bureau Committee for consideration and report at the next meeting.

The amendment changing the residence requirement from one year to six months was read for the second time.

The following amendment was read for the first time, Article 3, Section 7. Insert the following paragraph:

> Any member of this society who shall continue to, or hereafter agree or contract to, be employed by a Commercial Hospital Association, shall stand suspended from the society during the period of his connection with such association. By Commercial Hospital Association is meant an organization, company or corporation composed chiefly of laymen who own a majority of its stock and have the controlling interest, the object of which is to reap a profit from the services of physicians employed by or associated with them, to attend injured workmen under the present Medical Aid Law of the State of Washington.

The following amendment to the By-Laws was read for the first time, Article 3, Section 7:

> Any member who shall be guilty of any disloyal, seditious, or treasonable utterance, writing or act against the United States shall be expelled from the society.

Dr. Lippincott said that this amendment deserved serious consideration. He spoke also of the Medical Library which was greatly in need of contributing members. He asked for prompt attendance at the meetings, so that they could be begun on time.

The application of Dr. Daisy Grace Walcott was read. L. Fred Lundy was elected a member of the society.

PIERCE COUNTY MEDICAL SOCIETY.

Pres., S. W. Mowers, M. D.; Sec., R. A. Gove, M. D.

The regular meeting of the Pierce County Medical Society was held at Pierce County Hospital, Tacoma, Wash., March 12, 1918, at 8:30 p. m., President S. W. Mowers presiding. Twenty-five members were present. Minutes of the meeting of Feb. 26 were read and approved.

The applications of Drs. James H. Egan and Carl C. Hills were read by the secretary and referred to the Board of Trustees. Drs. Carl L. Taylor, W. W. Wick, and R. S. Van Pelt were elected to membership. Dr. A. E. Hillis was declared a member by transfer card from the Southern District of the North Dakota Medical Society.

The secretary read a letter from the American Medical Association in reference to the approval of the Owen-Dyer bill for increased rank for medical officers in the army. Dr. Yocom stated this bill had passed both branches of Congress and no action was necessary.

The secretary stated that a meeting was held at the Chamber of Commerce rooms on March 5, at which time a service flag was presented to the society and the names of those in the active service of the Government announced. He was directed to write an account of the proceedings of that evening, with a list of the names of the doctors in Pierce County in active army or navy service of the Government.

Clinical Cases.

Dr. W. B. Penney presented a case of a boy ten years old, who was burned on the chest and the right arm, Oct. 7, 1917. The paraffin treatment was used and the skin is soft and pliable. He described in detail the method of drying the wound and applying the paraffin.

Dr. Penney presented a man of twenty-four years who had rheumatism in 1914. Heart hypertrophied, some angina. He was in bed for six or seven months and given massive doses of digitalis. Compensation is nearly complete.

Dr. Penney presented a case of walking typhoid, temperature never above 102°. The patient was fed liberally and kept in bed two weeks. Then a relapse and typical typhoid for five weeks.

Dr. Penney presented a man who had cut his throat with a safety razor into the trachea thyroid cartilage. He can breathe properly and speak as usual.

Dr. Penney presented a care of multiple sclerosis in a woman of twenty-four years. Abortion in 1912. In 1914 was treated for syphilis. At the County Hospital blood examination and spinal fluid showed Wassermann negative.

Dr. Penney presented a woman who had been brought to the hospital for gastric ulcer. The history showed an ulcer on the lip. Blood examination gave Wassermann positive.

Dr. Hunter presented a man who had great pain in the back which examination showed to be kyphosis. X-ray showed a blood clot. A rib was resected and later an Albee operation with improvement. The patient was supposed to have had pulmonary tuberculosis.

Dr. Hunter exhibited a boy who broke both the tibia and fibula of his left leg. Fracture failed to unite. Transplantation which had been done was unsuccessful. Dr. Hunter performed an Albee operation, taking the splint from the right tibia with perfect result.

Dr. Hunter presented a man who had carcinoma of the lip five years ago. Three operations, the last by Dr. Hunter. The cervical glands later became infected and were excised, the common carotid being tied. There has been no return of the cancer.

Dr. Hunter presented a woman on whom he had operated for pus tubes and a girl for appendiceal abscess. He discussed these operations.

Dr. Hunter presented a colored girl who had been shot four weeks ago in the arm, jaw and abdomen. He repaired two perforations in cecum and resected sixteen inches of small intestine.

Dr. I. P. Balabanoff exhibited a case of mastoid abscess operated on two weeks previously. He called attention to the method of operation which consisted in having the cavity fill with a blood clot.

The second regular meeting of the society was held March 26, being called to order by President S. W. Mowers at 8:15 p. m. In absence of the secretary Dr. W. B. Penney acted in his place. Twenty-seven members were present. Minutes of the preceding meeting were read and approved.

Drs. James H. Egan and Carl C. Hills were elected to membership. The application of Dr. Walter M. Ely was referred to the Board of Trustees.

Drs. Penney and Hunter presented a uterus with attached placenta previa, on which was performed a Porro operation. Both the mother and the child were doing well.

Dr. Mowers made a report in reference to a Medical Advisory Board of the Tacoma General Hospital, stating that the committee had resigned. Remarks were made by Hon. S. A. Perkins, Chester Thorne, William Jones, W. R. Rust, S. M. Jackson, Drs. Hicks, Mowers and James. It was voted that at the next meeting a committee of three should be elected as an Advisory Board for the Tacoma General Hospital.

Dr. E. A. Layton, the newly appointed Health Officer, made a report on the health of the city He stated that the control of communicable diseases was one of the most important matters before the people of Tacoma and referred to the necessity of enforcing provisional quarantine in all doubtful cases.

The following resolution was adopted:

"WHEREAS, The Pierce County Medical Society, recognizing that the condition of the City of Tacoma in reference to the large increase of infectious and contagious diseases at the present time constitutes a serious menace, and

WHEREAS, The City of Tacoma has had a large addition to its population during the last year and many new industries have been located here, and also many thousands of soldiers have been stationed at Camp Lewis, which facts render the control of contagious diseases a difficult problem,

THEREFORE, Be It Resolved, That the Pierce County Medical Society is gratified to know that the commissioners of the City of Tacoma have greatly augmented the efficiency of the Health Department by appointing a full-time and experienced Health Officer, and appropriating sufficient funds to render efficient service, and

Be It Further Resolved, That we commend the efforts of our City Commissioners, and hereby pledge ourselves to sustain them in every way in our power to assist the Health Department in controlling and eradicating all communicable diseases, and to improve in every way the sanitary condition of our city."

Dr. J. R. Brown, chairman of the committee on arrangements, stated that a banquet would be held Wednesday evening, April 10, and that some of the physicians and also our own members from Camp Lewis would be invited.

BOOK REVIEWS

Edited by Kenelm Winslow, M. D.

Thyroid and Thymus. By Andre Crotti, M. D., F. A. C. S., LL.D., Formerly Professor of Clinical Surgery and Associate Professor of Anatomy at Ohio State University College of Medicine, etc. With 96 Illustrations and 33 Plates in Colors. 567 pp. Price, $10. Lea & Febiger, Philadelphia and New York, 1918.

This book is beautifully illustrated and the subject treated so thoroly that it is very valuable. It presents practically all that is known to date of importance in reference to the thyroid and thymus glands. In the chapter on clinical aspect of malignant goiters the author states that malignant degeneration occurs more in women than in men and is more apt to occur at the menopause, hence the removal of goiter at that age if it shows a tendency to suddenly enlarge, as it is only by operating at a very early date in malignant goiter that any degree of success can be attained. Concerning thyroid grafting in hypothyroidism, Kocher is frequently quoted and suggests transplantation in spongiosa tibia, other places suggested being subcutaneous areas in abdomen, etc. Permanency of the grafts are doubtful but the immediate results are often brilliant, due to the resorption of the thyroid tissue rather than functionating of transplanted gland. The author states we can accept as an established fact that the goiter causative factor, whatever it may be, is most frequently conveyed to the organism thru drinking water and the goiterogenous power of water allowed to stand in reservoirs is far more marked at the bottom of the body of water than at the top.

The chapters on the medical treatment of Graves disease and simple goiter give the latest treatment and the dangers incident to it. The author suggests the use of polyglandular therapy in tablet form, composed of pituitary, suprarenal, pancreas and corpus luteum, known as Crotti's treatment for exophthalmic goiter. The chapter on surgical technic is very well illustrated. It is a book well worth reading and having for reference on account of its fund of information. LAMSON.

Tumors of the Nervus Acusticus and the Syndrome of the Cerebellopontile Angle. By Harvey Cushing, M. D., Professor of Surgery at Harvard University. Octavo of 296 pages with 262 illustrations. Cloth, $5.00 net. W. B. Saunders Company, Philadelphia and London, 1917.

This is a most exhaustive report of cases observed from January, 1902, to February, 1917. Of thirty cases of tumors of the nervus acusticus in a series of 784, brain tumor cases were 6 per cent., most of which had been operated upon by a very formidable operation performed in the occipital region with a very large T-shaped incision, a removal of a large amount of bone, lifting of the hind brain and removal of all or a portion of the tumor. Neuromas are mostly fibroendotheliomas, attended by primary auditory symptoms passing on to cerebral and labyrinthine. There does not seem to be much relation to trauma and infection but to embryonal rests in women seemingly stirred up by pregnancy, the average age of the onset being thirty-four years. The symptoms are usually auditory with tinnitus and a profound deafness and involvement of the labyrinth. X-ray may show enlargement of the porous acusticus, suboccipital discomforts, cerebellar symptoms and disturbances of other nerves, general pressure symptoms, headaches, choked disc, vomiting, dyspragia and dysarthria cerebellar crisis. Operation has extended the life of these patients in some cases for a number of years. Beautiful series of 282 illustrations, full bibliography and index appended.

WURDEMANN.

The Spleen and Anaemia. Experimental and Clinical Studies. By Richard Mills Pearce, M. D., Sc.D., Professor of Research Medicine; Edward Bell Krumbhaar, M. D., Ph.D., Assistant Professor of Research Medicine; Charles Harrison Frazier, M. D., Sc.D., Professor of Clinical Medicine, University of Pennsylvania; J. B. Lippincott Co., Philadelphia and London, 1918.

This volume embraces an experimental study in animals of the relation of the spleen to blood destruction and regeneration. Emphasis is placed on the side of the red blood cell and the relation of the spleen to quantitative and qualitative changes which these cells may undergo and the effect of splenectomy on metabolism both experimentally and clinically. There is brought into one volume for the first time all of the modern views concerning the classification, diagnosis and treatment of non-infectious splenomegaly, characterized by blood destruction. The final chapter, very clearly presented by Dr. Frazier, deals with the details and technic of splenectomy operations, bringing out all of the newer points of this procedure. Anyone who essays to do work in this field would do well to peruse this work, thereby gaining a more comprehensive conception of the relative importance of the spleen to the organism, the effect of its removal, together with other informative suggestions along the line of this very pregnant topic.

SPEIDEL.

Blood Transfusion, Hemorrhage and the Anaemias. By Bertram M. Bernheim, A. B., M. D., F. A. C. G., Instructor in Clinical Surgery, the Johns Hopkins University, etc. 259 pp. Price, $4. J. B. Lippincott Company, Philadelphia and London, 1917.

This book is a revision and outgrowth of a previous monograph by the same author on vascular surgery (1913), the substance of which is herein embodied together with technical developments since that date. An excellent chapter on the diagnosis of hemorrhage is well worth reading. As indication, under control of hemorrhage, mention is made of fact that salt solution "never raised blood pressure twice." Attention is called to the ever broadening field of indications for transfusion, the matter of therapeutic dosage, when to use massive doses and when smaller, and many cases are cited to attest to its incomparable value in certain vitiated cases which medically treated pursue the usual course downward. A chapter deals with the dangers and an appendix with the best methods of testing prospective donors technically for hemolysis and agglutination. There is included herein a wealth of material data, covering the present status of transfusion therapy, some very good reflective discussion of the subject and many interesting observations and suggestions as to the future possibilities of this procedure which has already earned its place as a permanent instrument. SPEIDEL.

American Addresses on War Surgery. By Sir Berkeley Moynihan, C. B., Temporary Colonel, A. M. S., Consulting Surgeon, Northern Command. 12mo of 143 pages. Cloth, $1.75 net. W. B. Saunders Company, Philadelphia and London, 1917.

This series of four essays, delivered in October and November, 1917, is of great interest and use to Army and likewise to civil surgeons. The opening essay on the causes of the war shows that it is due to the "irruption of the hordes," the "swarming of the Huns" from their overfilled country, worshipping the principle of tyranny against that of the liberty of the other and free peoples. He shows that the best of the history of Germany in the last forty years is due to diligence, and especially is this so of German medicine, in which, if we take away the contributions of the German Jews, there is little left for glory to the Prussians.

The walls of gun-shot wounds should be excised and immediately closed, septic cases treated by cleansing and secondary closure. The Carrel-Dakin method may take second place to the physiologic methods, among which is that of Wright. In fact salt tablets wrapped in gauze are most warmly advocated. The Carrel-Dakin method has never found a wide or general acceptance in the British Army. In times of leisure the method is good but with all the haste of war it will often fail. The bismuth subnitrate or Morrison's method proves very successful. Wounds of the knee joint are treated by free exposure and removal of all foreign bodies. Nothing must be put into the synovial membrane for a drainage. Injury of the nerves should be sutured end to end. Nerve grafting or anastomosis is to be sharply condemned. Gun-shot wounds of the lungs and pleura cause death by hemorrhage within forty-eight hours with sepsis after the fourth or fifth day, the mortality being 20 per cent. They are treated by rest and as early closure of the wound as possible. WURDEMANN.

American Illustrated Medical Dictionary (Dorland). A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary, Science, Nursing, Biology, and kindred branches; with new and elaborate tables. Ninth Edition Revised and Enlarged. Edited by W. A. Newman Dorland, M. D. Large Octavo of 1179 pages with 331 illustrations, 119 in colors. Containing over 2,000 new terms. Flexible Leather, $5 net; thumb index, $5.50 net. W. B. Saunders Company, Philadelphia and London, 1917.

The fact that this work has reached its ninth edition in seventeen years indicates the demand existing for it. This edition represents an up-to-date dictionary, sufficient for the needs of the physician and student. It contains more than the mere definition of words, altho this feature is presented with exceptional clearness and completeness. Under each disease mentioned is given a summary of the symptoms and organs of the body mentioned are briefly described. Numerous illustrations amplify the text, many appearing in colors. A therapeutic table is added, presenting important data on drugs of practical use. It is a compendium of medical knowledge such as every physician needs at his right hand for daily use.

SMITH.

A Practical Text-Book of Infection, Immunity and Specific Therapy with special reference to immunologic technic. By John A. Kolmer, M. D., Dr. P. H., M. Sc., Assistant Professor of Experimental Pathology, University of Pennsylvania, with an introduction by Allen J. Smith, M. D., Professor of Pathology, University of Pennsylvania. Second Edition Thoroly Revised. Octavo of 978 pages with 147 original illustrations, 46 in colors. Cloth, $7 net; Half Morocco, $8.50. W. B. Saunders Company, Philadelphia and London, 1917.

This is a rare book. The author has the happy faculty of linking scientific data with every day work in such manner that the association is plain. Farther he renders it easy for the clinician to utilize these scientific facts. His recommendations are for simple apparatus and methods. The illustrations are profuse and excellent. The text is concise and plain. Late data on the Schick toxin test for immunization in diphtheria, complement fixation in tuberculosis and other infections, Wassermann test, anaphylactic skin reactions, treatment of various infections with vaccines, etc., are given. Bacterial chemotherapy, which promises much in the future, has been amplified. It is one of the very best books obtainable on the subject of which it treats.

West.

Clinical Lectures on Infant Feeding. By Lewis W. Hill, M. D., Childrens Hospital, Boston, and Jesse R. Gerstley, M. D., Michael Reese Hospital, Chicago. 12mo of 377 pages, illustrated. Cloth, $2.75 net. W. B. Saunders, Philadelphia and London, 1917.

The first section of this interesting book, written by Dr. Hill, is an exposition of the present teaching of the Boston school of pediatricians and the percentage method. The second portion, written by Dr. Gerstley, is the most complete and satisfactory exposition of the Finkelstein and Czerny teachings which has appeared in English. The final chapters are clinics on a series of feeding cases which Dr. Gerstley conducted in connection with his graduate course of lectures. A description of the case, the treatment, results from week to week and discussions which arose are reported. Dr. Hill says, "To a man who has not been brought up in the percentage method, the use of so many figures and calculations may seem extremely complicated, but the feeding of a baby who is not doing well is a very delicate task which requires a great deal of painstaking care, and much time and thought must be given it if good results are to be obtained." Speaking of the simplicity of the methods he teaches, Dr. Gerstley says that physicians who come twice a week to the Chicago Infant Welfare Society, after a few weeks instruction, obtain just as good results as he with his much wider study and experience. The book is most interesting and valuable.

Durand.

Infant Feeding. By Clifford G. Grulee, A. M., M. D., Assistant Professor of Pediatrics at Rush Medical College, etc. Third Edition Thoroughly Revised. Octavo of 326 pages, illustrated. Cloth, $3.25 net. W. B. Saunders Company, Philadelphia and London.

This valuable work first brought the teachings of the German school on nutritional disturbances and feeding to the American attention. Since it first appeared it has served as a textbook for a great many students and practitioners and has made the road to success in this branch of practice seem plain to many who had been hopelessly lost in the intricacies of the percentage method. The chapters on metabolism and absorption have been revised and added too and the text brought up to date.

Durand.

Intermediate Textbook of Physiological Chemistry with Experiments. By C. J. V. Pettibone, Ph.D., Assistant Professor of Physiological Chemistry, Medical School, University of Minnesota, Minneapolis. 328 pp. Price, $2.50. C. V. Mosby Co., St. Louis, 1917.

This book is not an extended work on the subject of physiological chemistry. It is intended

PORTLAND SURGICAL HOSPITAL

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WILSON JOHNSTON, M. D.

MRS. TOM RICHARDSON, Superintendent
ELIZABETH RICHARDSON, Assistant Superintendent

611 LOVEJOY ST., PORTLAND, OREGON.

rather to give a general view of the subject particularly for students to acquaint them with the fundamental processes which go on in the animal body. Part I deals most extensively with carbohydrates, protein and digestion in the various parts of the intestinal tract. There is also an instructive chapter on urine, dealing minutely with its ingredients. Part II on laboratory work has a chapter corresponding to each in Part I, giving detailed instructions for the examination and study of each subject described. The book offers an opportunity in a condensed form to study the leading features of this subject. SMITH.

A Compend of Bacteriology Including Pathogenic Protozoa. By Robert L. Pitfield, M. D., Pathologist to the Germantown Hospital, etc. Third Edition with 4 plates and 82 other illustrations. 279 pp. Price, $1.25. P. Blakiston's Son & Co., Philadelphia, 1917.

In this small book one may find a very concise, well classified and arranged review of bacteriology and immunity. The illustrations are well chosen, taken from the most recent books, and by the most reputed men of this country. The fifteen pages on infection are well worth the study of the busy physician and surgeon in helping with the prevention of infective diseases. The chapter on immunity is a simple yet concise review of the latest and best data on immunity and at the same time relieves from the elaborate detail found in most books. The chapter on bacteriology is very well arranged and simplified. The illustrations under animal parasites are well selected. "Filterable viruses" is a new subject for a compend of this size. GARHART.

The Surgical Clinics of Chicago. Volume I, Number VI, (December, 1917). Index Number, Octavo 245 pages, 89 illustrations. Published Bi-monthly. Price per year: Paper, $10; Cloth, $14. W. B. Saunders Company, Philadelphia and London.

This number completes Vol. I of this series of clinics and is a fitting conclusion for this valuable issue for the year. The contributors include the best known surgeons of Chicago. A great variety of surgical subjects are discussed. Suprapubic prostatectomy is considered in articles by Schmidt and Devan, the practical points made by each writer being emphasized by illuminating illustrations. The volume comprises topics of interest to every surgeon. SMITH.

The Medical Clinics of North America. Volume I, Number III, (The New York Number, November, 1917). Octavo of 346 pages, 37 illustrations. Published Bi-monthly. Price per year: Paper, $10; Cloth, $14. W. B. Saunders Company, Philadelphia and London.

This volume contains papers by well known physicians of New York, representing the medical schools of that city, the Rockefeller Institute and many of the hospitals. It is, in fact, a book on medicine filling about 350 pages. A great variety of subjects are considered. Coleman has an instructive article on the typhoid diet. He gives lists of food with specific articles for different meals which would be a great shock to the practitioner of a generation ago who believed the patient would die if given anything but a milk diet. The volume is well worth reading on the part of every practitioner. SMITH.

A Clinical Treatise on Diseases of the Heart for the General Practitioner. By Edward E. Cornwall, Ph. B., M. D., Attending Physician Williamsburgh and Norwegian Hospitals, etc. 127 pp. Price $1.50. Rebman Co., New York, 1917.

This book is preeminently a work for the general practitioner, as stated by the author. He gives none of the more modern instrumental methods, notably the fluroscope, electrocardiograph and ink polygraph, and includes no illustrations. The exhibition of the ordinary methods of clinical examination, as they should be used in general practice, is unusually good; hence the book should particularly appeal to the practitioner who must depend solely on his stethoscope, eyes and fingers. His treatment is founded on the accepted views and he properly lays great stress on rest; drugs, however, being carefully considered. It might be noted that he fails to mention the ocular reflex and the effect of vagal stimulation in many cases of paroxysmal tachycardia, and that he does not mention auricular flutter. BLACKFORD.

A Manual of Laboratory Diagnosis. By Stella M. Gardner, M. D., and Mary C. Lincoln, M. D. Formerly Assistant Professors of Laboratory Diagnosis, College of Medicine, University of Illinois. 133 pp. Price, $1.25. Chicago Medical Book Co., 1917.

The arrangement and simplicity of methods, in that the usual multiplicity of tests has been avoided and in this way the usual confusion of tests by the beginner can be avoided, makes this book of practical value. The tabulation of the significance of laboratory findings is of great value to the busy student or practitioner. GARHART.

Progressive Medicine. Edited by Hobert Amory Hare, M. D., Vol. XX, Number 4, December, 1917. Six dollars per annum. Lea & Febiger, Philadelphia and New York.

This quarterly volume contains the usual amount of information on a great variety of medical and surgical topics. The largest contribution is by Bloodgood on military surgery. It comprises a resumé of information collected from the great war. An abundance of illustrations illustrates the text. Nearly 100 pages are devoted to Practical Therapeutic References, by Landis, in which he discusses many remedies of every day use and their modern application. He includes a number of remedies aside from drugs, such as diet, fresh air, intravenous medication, radium, x-ray, serums and vaccines. This is a volume of great practical value. SMITH.

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ORIGINAL CONTRIBUTIONS

ORGANIC BASIS OF NEURASTHENIA AND SURGICAL CURE.*

By H. W. Riggs, F. A. C. S., F. R. C. S., Edin.
VANCOUVER, B. C.
Surgeon to Vancouver General Hospital.

With great frequency does the general practitioner meet with cases, especially in women, who complain of general fatigue, backache and nerve depression, with acute symptoms pointing to some abdominal lesion, which are frequently operated on under the diagnosis of appendicitis, ulcer of stomach, gallbladder trouble, with disappointment to the surgeon and no benefit to the patient. The more chronic types are treated by tonics, etc., and are temporarily benefited. In neither case is the origin of the symptoms attacked.

The x-ray examination of these cases shows ptosis of the gastrointestinal tract, wholly or in part; stomach, small intestine, cecum, ascending and transverse colons are most frequently affected. By palpation the kidneys may be found movable. It is significant that prolapsed kidney is usually found on the right side and is accompanied by a ptosis of ascending colon and cecum. The same group of symptoms are found in gynecologic cases which may not be accompanied by the visceral ptosis but show injuries from child-birth and suffer from displacement—both backward and downward—of the uterus.

What is the underlying principle in these cases? The feature common to all is a downward movement of organs from original positions. This naturally occurs when the patient is in the upright position, while the recumbent position very largely replaces the organs. It is found that, accompanying the upright position, is a gradual increase of symptoms made worse by exertion, while rest in the recumbent position relieves from symptoms. Hence we may safely infer that the downward movement of the organs is intimately connected with the origin of the symptoms, but why does the downward movement cause trouble? The factors common to all these organs are vessels and nerves, the latter accompanying the former as nerve plexuses and are intimately associated with them. It is, therefore, in connection with these structures and the pull on them that we look for the origin of the symptoms.

We have confirmation of this in the pain suffered by the patient when, under a local anesthetic, the abdomen is opened and the bowels handled. As long as no strain or drag is made on the mesentery with its vessels and nerves, no sensation is felt, but a sickening pain is caused by such a pull. That this is not caused by the peritoneal coat is shown in kidney ptosis, where the kidney slides down behind the peritoneum. In case 1, given below, symptoms were felt from the right kidney, while it was descending, and then, when the stretching had proceeded to the limit and the organ no longer dragged, there was a period of quiescence. The symptoms began again when the left kidney began to fall. The same condition is found in displacement of the uterus. During the time the organ is descending and putting the strain on the vessels and nerves, there are symptoms of backache, pressure symptoms on the head, stomach disturbances, etc. But we all have seen cases where the prolapse has gone to the limit, where there is no longer any drag and where symptoms have ceased, except for the inconvenience of the projecting mass.

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*Read before Annual Meeting of North Pacific Surgical Association, Victoria, B. C., Dec. 14-15, 1917.

In going over a number of cases there seem to be several etiologic factors which vary with the case as to their prominence. Laxity of abdominal walls, combined with absorption of fat and physical strain, is most frequently found in multiparous women or in people who have recently passed thru an exhausting illness. Trauma is an occasional factor and may give rise to symptoms which are ascribed to some other condition, as in case 2.

Then there is the type so often found in young women, in whom this condition accompanies a certain anatomic build, with a long narrow chest and lack of usual amount of curvature in the spine. Many of the cases begin life well and pass thru youth with good health, only to become mild neurasthenics at the age of 18 to 25. At operation they are found to have an ascending colon with a mesentery, a duodenum more mobile than usual, and a stomach in which the gastrohepatic omentum is very long. The kidney varies from slight mobility to a complete prolapse. Here there is a condition which is congenital, but which under habits of life during youth gradually makes itself felt.

It is impossible to say the extent of the part played in this type by constipation. Many a girl who has been carefully watched at home and bowels kept regular, under the changed conditions of life during school years, and the restrictions which make themselves felt in the High School and University period, gradually becomes more and more constipated, and at the end of the educational term suffers from a sluggish bowel habit and from autointoxication. Here is another factor which will cause all the symptoms of a neurasthenic, and certainly should be eliminated before a diagnosis of "drag" from ptosis is made. It is probable, however, that in this as many other conditions, more than one factor is at work, and that autointoxication and pull upon the nerve structures may be present at the same time and, in fact, may be part of a vicious circle.

This is borne out when we consider the nerve supply of the abdominal organs and the physiology of it. The solar plexus and its derivative plexuses are joined by the splanchnics and branches from the pneumogastrics. Stimulation of the splanchnics inhibits action. Again, physiologists point out that stimulation of the lumbar sympathetic acts precisely as that of the splanchnics and inhibits muscular action of the cecum and the whole colon, including antiperistaltic movements. Here, then, we may find the cause of a vicious circle which is so often found in this type of case. The drag of a loose kidney, cecum, ascending colon and stomach may cause a slowing down of the movements of the whole intestinal tract and hence the symptoms of delay and autointoxication.

Clinical conditions seem to bear out this interpretation. The symptoms of indigestion are found in ptosis of the stomach, even in cases where the x-ray shows no delay in the stomach itself. It is a well-known fact that ptosis of the kidney causes not only pain in the epigastrium but trouble with digestion, while, usually associated with a low hanging cecum and ascending colon, is delay in movement of the contents. In all these cases painful stimuli from ptosis may interfere with the secretion of the digestive juices, while inhibition of the muscular movements takes place.

If the above premises are correct, it follows that permanent benefit will only arise in cases of ptosis by replacing the organs. This is sometimes accomplished by putting the patient to bed and by means of massage, extra feeding, etc., so increasing the nutrition, with the deposition of fat in the mesenteries and fatty capsules. The excessive fat acts as a support and prevents the drag. Naturally the benefit lasts only as long as the fat remains. In other cases, where the fattening process fails or where the ptosis has become so great, the same effect is accomplished by operation. In ptosis of the stomach this is done by shortening the gastrohepatic ligament, combined with fastening the liver, so that it cannot by its weight force the stomach from its moorings; in kidney conditions, nephropexy. In cases where the cecum and ascending colon are affected it is not so easy. I have tried fastening the bowel to the parietal wall by sutures thru the outer longitudinal band. Some of these cases have done very well, while others have been better for awhile and then have recurred. It is probable that in these cases a multiple operation must be carried out, by which all these organs are slung up. This looks like very radical treatment, but it does not take very long in operative time, and apart from the fact of three incisions causes little extra discomfort to the patient or very little extra risk.

In conclusion I may sum up:

(1) The symptoms in ptosis of the various abdominal organs are due to drag on the nerve supply, which chiefly accompanies the blood vessels.

(2) These symptoms are vague pains or aches in the areas intimately connected with the nerve plexuses—the sympathetic and spinal nerves; also interference with digestion and peristaltic movements of the bowels thru inhibition.

(3) The diagnosis in these cases often is neurasthenia, and in treatment the cause is not attacked, or the cases with more prominent symptoms are operated on with diagnosis of ulcer, appendicitis or gallbladder trouble.

(4) Mild cases may be bettered for a variable time by increasing deposition of fat. Severe cases should be treated by replacing and fixing of organs, followed by increased nutrition.

CASE REPORTS.

Case 1. Miss B, age 29, nurse, seen Nov., 1913. Complained of attacks of pain in left loin. Gave history of chlorosis in youth. At age of 24 began to suffer from symptoms of indigestion—pains after eating, flatulency and sometimes vomiting. Attacks worse at intervals. These symptoms lasted for three years, when attacks ceased. Shortly after this began to have attacks of pain in left loin, with discomfort over the bladder, then crampy pains in the region of the umbilicus, finally settling in the left loin. No disturbance of urination. Nausea and vomiting occurred with accumulation of gas in left hypochondrium. The bowels just previous to, during and immediately following an attack were difficult to move. After attack had passed patient remained in good condition for some time. Attacks often immediately before or after menstrual period. Patient suffered from constipation.

Examination showed that right kidney was very movable, dropping below the umbilicus. On first examination no ptosis of left kidney noticed, but on examination during one of the attacks it was found to be prolapsed nearly to the crest of the ilium and very tender. X-ray showed no stone.

Diagnosis of prolapsed kidney, with kinking of left ureter was made. Operation was performed and both kidneys fastened in place. No further attacks of pain. Patient completed training as a nurse and, when seen in Oct., 1917, had had no trouble, both kidneys remaining in good position.

Case 2. Mrs. H., age 29, housewife. Came to me complaining of pain in right side of abdomen. Gave following history. Had had good health previous to winter of 1914. Just before Christmas of that year had a long and very rough motor ride, which was followed by frequent and painful urination. Pain in the right side began and a doctor being called pronounced it an attack of appendicitis. She was ill for nine days, then recovered and was quite well until winter of 1915-1916. At that time a period of overwork brought on another attack of pain which disappeared after a period of rest in bed. Again in June, 1916, another attack began from the same cause and since then there has been soreness in the right loin. At times the pain would spread over the whole abdomen. Exertion made the side ache more severely. In addition there were digestive disturbances, gas and epigastric pain. The soreness was much worse when the corsets were off. Patient was very nervous, irritable, had headaches, easily tired, and had lost ten pounds in weight in three months. Bowels were constipated.

Examination showed right kidney movable and liver very low on standing.

Operation was performed, slinging up the kidney and, thru an incision in the epigastrium, the liver prevented from dropping by fastening the round ligament to the anterior abdominal wall. Appendix was normal, no adhesions.

Patient made a good recovery and no longer had the pain in the side. Nervous symptoms have disappeared.

Case 3. Mrs. B., age 34, housewife. Complaint, pain in right side. History. Two children, with last child badly torn. A year later perineum was repaired. Had currettage for excessive menstrual flow. Since last confinement she has had pain in right side and when standing feels that something drops on that side. Has suffered from constipation. Sometimes the bowels will not move until patient has lain down or on her left side. She suffers from cold feet and hands. Is extremely nervous, irritable and easily tired.

Examination showed uterus retroverted and the right kidney below the umbilicus when in the upright position. An x-ray showed the hepatic flexure on level with crest of ilium, with cecum, ascending colon, transverse colon below the level of the crests. Stomach below the umbilicus.

Operation. Kidney was fixed in position. The ascending colon sutured to parietal wall. Coffey's transverse colon suspension done, and the uterus also suspended by Coffey's method.

Owing to the nervous condition of this patient, plus the effect of the severe operation, she was slow in convalescing. But six months after the operation she said she was better than she had been for years, fatter, stronger, with no pain and no nervous symptoms. When seen recently (three and a half years later) she is still in good health with no recurring symptoms.

OBSERVATIONS ON THE OPERATIVE TREATMENT OF FRACTURES.*

By Chas. D. Hunter, M. D.

TACOMA, WASH.

The subject of the operative treatment of fractures is one to which this association has given consideration at all of its meetings. The fact that there has been such a difference of opinion with regard to the subject, and the advances which have taken place in the methods of treatment of fractures during the past three years, is my excuse in again bringing it before you.

I do not wish to advocate the use of more extensive open treatment. As a matter of fact I am of the opinion that it has been entirely too frequently used in the past ten years. But, after the most painstaking use of all available methods of treatment, there will always remain a class of cases, possibly 10 per cent., in which good functional results can only be obtained by operative procedures. Such being the case, the subject naturally divides itself into two main propositions. What class of fractures require operative interference and what should be the method of procedure?

The one class of fractures upon which I assume we all agree is, of course, those in which union has failed to take place. Barring specific disease, non-union is most frequently caused by the interposition of muscle, fascia or periosteum between the fragments. Bad position of the fragments is unfortunately not a frequent cause of non-union.

In recent cases what class of fractures should be operated on? Broadly, those in which we know from their location are likely to have tissues interposed between the fractured ends, and I know of no way of overcoming this condition in the closed method of treatment. And those in which it is impossible to reduce and maintain the reduction of the deformity. Reduction does not simply mean the preventing of overriding, but the restitution of the bone to its normal position as regards both its transverse and longitudinal axis.

While any fracture may have tissue interposed between the fragments, there are certain fractures which I might say usually have this condition. Fractures of both bones of the arm or leg at the same level, supracondylar, infratrochanteric and fractures of the neck of the femur without impaction, fractures of the patella and olecranon. I regard these fractures primarily operative, because non-union is extremely common; furthermore, reduction without operation is almost impossible. Fractures which are difficult to reduce and hold are the oblique, spiral and fractures in or near joints. Compound comminuted fractures or any one fracture of the above type are under certain conditions, as will be later taken up, at least well treated by certain forms of indirect operative treatment.

The operative treatment of fractures may be utilized along five distinct lines. (1) The use of non-absorbable material directly at the point of fracture for holding the fracture after reduction has been effected. (2) The use of non-absorbable material at a point distal to the fracture for the purpose of applying extension with subsequent removal of the non-absorbable material. (3) The use of absorbable material as kangaroo tendon. (4) The use of living bone transplanted from the living animal. (5) Combined use of any of the foregoing materials or methods and last the simple reduction with external immobilzation apparatus.

The disagreement between the members of the profession arises from the consideration of the use of these different methods. It would seem that an opinion of the best method might reasonably be based on an application of the known process of the regeneration of bone and fracture repair, combined with investigation of the reaction of the tissue toward foreign bodies introduced into them.

What happens when union takes place in a simple fracture so that the position of the fragments is anatomically good? The defect which exists between the ends of the bone adjacent to the line of fracture is bridged over by callus, which primarily consists of three parts, the periosteal, intermediary and medullary portions.

The periosteal and medullary parts of the callus form early, beginning as soon as deposition of the fibrin has taken place, the periosteal from cells derived from the osteogenetic layer of the periosteum and the medullary from endosteal and certain cells of the bone marrow. Their transition into provisional callus occupies from ten to seventeen days.

The line of compact bone adjacent to the fractured ends undergoes at first a rarifying process. Later the intermediary callus is formed from cells proliferating from the periosteal and medullary callus. The transition of the periosteal and medullary provisional callus into the permanent callus is a matter of a few weeks, that of the intermediary portion six to nine months at best.

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*Read before Annual Meeting of North Pacific Surgical Association, Victoria, B. C., Dec. 14-15, 1917.

Permanent regeneration processes do not take place in the presence of a process of necrosis. The fact that cells proliferating from the periosteal and intramedullary callus do not grow in between the ends of the compact bone until after the rarifying process is complete accounts for the long period necessary for the permanent stage of callus formation in this part of the reparative process. The minute cellular transformation is complex, but the above can be fairly drawn from a careful consideration of the whole process. The repair in all operative methods takes place along the same general lines, modified by factors for which the various methods of procedure are responsible.

How does the use of non-absorbable material fit into the picture of simple repair? For the sake of brevity I shall take up the use of plates, bands and pegs only, as I do not believe the various kinds of wiring are in use today. These operative methods fill one of the most important dictates in the treatment of fractures. They do place the fragments in correct anatomic position, without which good functional results are the exception rather than the rule. So long as they hold the fragments firmly in good position, the amount of callus formed is not excessive, and the transition from a small provisional callus to firm bony union is more rapid than is the case in a large callus.

They may be objected to on the grounds that they do produce pressure necrosis, and that whenever necrosis takes place the destroyed cellular elements must be absorbed before reparative processes at this point take place. In a large percentage of cases the necrosis is of relatively so small an amount or so placed that it does not affect the ultimate result. The amount of pressure exerted on the bone is not alone due to the application of the foreign body but largely to the amount of pull exerted by the muscles which play over the seat of fracture. Let the necrosis be of such an extent as to loosen the screws, nail or band and the perfect mobilization is lost and more callus formed.

The point of necrosis is a zone of lessened resistance, so that bacteria carried in the blood stream may localize and produce suppuration. This not alone applies to the time of repair but months or years after the use of the buried material. The reason for the necessity of such extreme care in the operative procedures in which non-absorbable material is used is that, with this known necrosis taking place, the tissues are unable to handle even the slightest contamination introduced from the skin or from gloves, sponges or instruments.

Lastly, at least in the use of a plate, the exposure necessary is large, apparently the larger the better, as it seems that a wide application of the plate is better for purposes of fixation. Naturally the larger the tissue exposure the more difficult the attempts to protect against infection.

The use of non-absorbable material at a point distal to the fracture for extension purpose, of course, refers to the Steinman extension. This has been advocated particularly for fractures of the tibia close to the ankle and fractures of the femur close to the condyles. It meets with the objection that the nail to which extension is applied produces necrosis and that frequently a sinus results after removal of the nail, which persists for months with the discharge of fragments of bone. For compound or badly comminuted fractures in these locations I believe it has a distinct field, as immobilization in good position is otherwise extremely difficult and other operative interferences, at least in compound fractures, are distinctly contraindicated. The treatment is relatively painless and by its use excellent control of the fragments is possible.

Absorbable material answers every purpose in certain fractures, as that of the patella or olecranon, but gives way too readily or too soon where there is much strain from muscular pull. The autoplastic bone transplant may be used in many forms, either as the inlay or intramedullary graft, with the transplant taken from the same bone or from another bone of the same individual. The transplant serves two purposes, moderate fixation and the presence of living bone which becomes an integral part of the final resulting bone. For purposes of regeneration in ununited fractures the inlay would seem to offer the best results on theoretical grounds, as the component parts of host and transplant lie side by side.

The intramedullary transplant should be denuded of periosteum and really takes the place of the intramedullary callus. Like the intramedullary callus it may be wholly absorbed or any part of it remain after firm union has taken place. The functional need of the part seems to determine the amount of intramedullary callus or transplant removing.

From a technical point of view the intramedullary transplant would seem to meet the requirements as it can be applied thru small exposure and gives a greater degree of fixation. On the other hand, it cannot be used in fractures of the lower arm or leg unless both bones are broken, and, if placed too tightly in the medullary canal, has a tendency to split the shaft of the bone. The transplant requires the careful use of external immobilization appliances and an absolute immobilization in a position of equalization of muscular pull until such time as the vascular supply between the transplant and host has become well established, three to six weeks. The inlay presupposes its retention either by autoplastic bone pegs or kangaroo-tendon. The intramedullary transplant may be reinforced by kangaroo-tendon, especially in spiral or oblique fractures.

Simple reduction of the fracture and retention by immobilization is the ideal operative treatment. Unfortunately the cases in which this answers the problem are rare, as the deformity in oblique or spiral fractures recurs unless some internal means of fixation are used. It seems as tho one is only able to fulfill some of the dictates of rational fracture treatment without transgressing others. The controversy between the exponents of the mobilization treatment and those who believe in immobilization enters largely into the operative treatment.

No one who has seen the wonderfully satisfactory results obtained by simple massage is likely to enjoy the prospect to the patient of an open operation, followed by ten to sixteen weeks rigid fixation of the two neighboring joints. No operative method, I believe I am safe in asserting, is safe without some external immobilization treatment, but the longer the immobilization the more certain is tendon fixation and joint stiffness. Long after the fracture has united the patient complains of the joint and tendon trouble.

I believe that in bone transplantation the minimum of safety is three to six weeks, depending on the size of the bone operated on and its functional use. This problem is one of the length of time necessary for the permanent establishment of the circulation between the host and transplant. Moblization too soon means rupture of the delicate vascular tissue between the two, in which case the transplant dies and acts wholly as a sequestrum. Fibrous union may reasonably be expected. On the other hand, if the limb is mobilized between the third and sixth week, the joints and tendon should be ready for duty as soon as the bony framework is able to take up its function.

Another problem is the best time to undertake operative interruption, assuming that one has control of a case from the time of injury. Is immediate operation before the muscular structure has had time to contract and the blood clot become organized indicated, or should one wait seven to ten days until the patient has reacted and the cofferdaming of the lymph spaces taken place? This seems to be a bone of contention with the advocation of the introduction of non-absorbable material, but I know of no one who has suggested the immediate application of a transplant.

I must admit that I have never been brave enough to operate on a fracture the day it took place. During a week or ten days one has opportunity enough to satisfy himself that the fracture must be operated on, to have numerous skiagrams taken and to make the preparation of the field as thoro as possible. My results in numerous plated cases prior to 1914 and in forty-five transplants for fractures since that date have been satisfactory beyond my expectation, and I have no idea of changing to the day of injury plan, whatever the results of someone else may be.

SUMMARY.

Certain types of fractures are best treated by open operation. The Steinman method of nail extension has a limited field of usefulness in compound, badly comminuted fractures of the femur and lower leg.

The introduction of non-absorbable material in the hands of men specially skilled in bone surgery is attended by a high percentage of extremely satisfactory results. Just how high this percentage is depends on the skill of the operator and his veracity. A certain percentage will show infection. If this takes place immediately, it is usually systemic and is very liable to be followed by the death of the patient. If late it requires the removal of the non-absorbable material and the treatment of the case as one of chronic osteomyelitis. Certain cases of non-union may be directly attributed to this method.

In the hands of men not specially skilled, and this popular method of fracture surgery is being done by about every one who would attempt a simple appendectomy, the percentage of infection, disability and death jumps to enormous figures. I know of no surgery that is being more poorly carried out on the whole, and in which the results are of so great a discredit to surgery.

The bone plate occupies the same relation to bone surgery as the Murphy button and other mechanical devices occupy in relation to gastrointestinal surgery. Each in its day was a distinct advance and opened up new fields for surgical therapy. They have all marked a distinct step forward but must stand aside for more modern methods.

The introduction of the autoplastic bone transplant is the nearest approach to the solution of the problem. The tissues are not devitalized but rather stimulated to bone regeneration, no foreign body is introduced to irritate, reduction of deformity is brought about and retention of the fractured fragments is secured.

BONE TRANSPLANTS.*

By Milton G. Sturgis, M. D.
SEATTLE, WASH.

With the advent of the x-ray, which brought to light glaring deformities, necessitating clever but painful explanations, there has been made a constant effort, not only to approximate perfect results on ordinary cases of fracture, but also to furnish satisfactory agents in those not yielding to the usual manipulatory treatments. The many forms of retentive apparatus, the various use of metals, and the employment of organic substances, are but evidences of this effort.

From the year 1682, when Meekren successfully repaired a defect of the cranium by transplanting a portion of the skull of a dog, medical history records sporadic attempts at bone transplantation. In 1858 Ollier conducted a series of experiments so comprehensive that they are quoted to this day, and it is not wholly chimerical to believe that, had he had knowledge of antisepsis, he might have solved the problem at that time.

In more recent years a considerable literature has grown up, partly from the impetus given the topic by researches of men like Murphy, Barth and Axhausen, but mainly stimulated because of the dissatisfaction with the results obtained by the use of metals. The conclusions reached by the various investigators may be divided into three groups, representing the three most important theories.

The first, the metaplasia theory of Baschkirzew and Petrow, which contends that the graft itself dies, being replaced from the surrounding connective tissue cells, either from the contiguous tissue or from the fibrous film which nature throws about the newly implanted bone cells; explaining in particular in this way the formation of the callus from the fractured ends of a bone graft.

Second, the osteo-conductive theory which asserts that the graft dies and is replaced by the activity of the osteoblasts of the host; the graft acting first as a stimulant to activate them, and second as a scaffold which facilitates their progress. This, in effect, is what occurs when heterogeneous bone is used and it can not be wholly denied when the ordinary grafts are used.

Third, the theory which states that the graft persists as a living unit of bone. Davis, an adherent of this school, says, "Whether or not the bone transplant is absorbed is perhaps not of great importance. It has been shown that, if it is replaced, it is replaced almost absolutely in the size and shape of the original bone as inserted," adding that, in a fracture of the shaft of a long bone, no one would say that either fragment had been replaced by a new bone, and he asks pertinently, "in a Colles fracture, does not the distal fragment live?"

It is not of material consequence that McEwan affirms that the vitality arises solely from the osteoblasts within the bone, and that the periosteum is but a limiting membrane, or that the many conclude that the activity arises from the peri- and endosteum layer, since Bruce Gill, calling attention to the embryologic formation of bone, reminds us that the peri- and endosteum and Haversian canals are one and the same embryologically and, furthermore, derived from a connective tissue cell of special function.

Thus it is that the small bone chips, which possess greater relative regenerative power than the large bone grafts, as shown by a number of investigators, are but the imprisoned mature osteoblast set free from its walls of bone, and stimulated again into active function; and, since the smaller the graft, the greater the relative surfaces, it necessarily follows the greater relative peripheral osteoblasts. That bone will live without periosteum is undoubted, but that bone with periosteum much more frequently lives is established beyond cavil. With it Pfmeister in his experiments obtained 100 per cent. of successes, and but 48 per cent. in those from which it was removed. Albee, who lays stress upon its retention, claims 100 per cent. successes in his clinical work, and it is undoubted that it facilitates and hastens the process of healing by cementing the grafts to the wound and by stimulating capillary invasion and early nutrition.

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Whatever may be our leanings at the present time, we must not conclude that any one of these views represents the ultimate truth. The investigators, in using the same terms, do not always mean the same thing. Thus, McEwan, speaking of periosteum, ignores the fact that it possesses a cambium layer of pronounced osteogenetic power, and Axhausen, in removing periosteum, does not at the same time remove the endosteum from the graft. They are capable of much modification when further research enlightens us, for we have not as yet fully measured the various factors entering into the growth of new bone. Not only are results modified by the various technics by the various care of the transplant before imbedding, but also by the individual reactions of the patient himself.

The influence of the ductless glands as shown in the cretin, whose bones grow scarcely at all, and the acromegalic, whose bones grow extravagantly; the influence of diet; the influence in the circulatory fluids of protoplasmic poisons or deterrents, of ingested drugs (for instance, madder root has the property of staining red the bone tissue newly formed during the period it is circulating) these are some of the factors entering into the final conclusion.

Bone grafts are of three types: First, the autogenous, those taken from the patient himself. If posible, all grafts should be such, including both peri- and endosteum, not solely for their osteogenetic function alone, but also as a limiting membrane. With proper technic and in the absence of adventitious circumstances, they are successful in 100 per cent. of cases.

Second, the homogeneous, those taken from the same species, preferably from a blood relation. With these the percentage of success is much less. They are less resistant to infection, and fibrous encapsulation occurs more frequently.

Third, the heterogeneous, those from different species. The last two groups may be discussed together, for, strictly speaking, they are both heterogeneous, varying only in degree, altho this may be considerable. While usually absorbed, it does not follow that this is always so.

Recently Wayne Babcock reports five cases of heteroplastic grafts which were successful. Two were transplants for saddle-nose. He had them under observation for periods varying up to two years, without any evidence of absorption in any of his cases and, since they all were practically subcutaneous, they could be readily observed. He termed them his soup bone transplants, since they were taken from the hospital soup kettle, from which he selected the scapula of sheep or ox. He boiled them an hour; placed them for twenty-four hours in a 5 per cent. phenol solution; boiled them in sterile water for another half hour; cut them into the required shape with a cartilage knife, bored holes into them at half-inch intervals and inserted them. The fact that, violating many of the teachings at present accepted, he was able to obtain ideal results seemingly permanent, merely illustrates the lack of absolute knowledge at this time, and emphasizes again the fact that there are likely to be considerable modifications in future teaching.

Transplantation of entire bone and the transplantation of the epiphyseal line are both interesting phases of this work. Gill narrates the successful transplantation of metacarpal bones in dogs, successful even in the presence of infection, ascribing this success to the early establishment of function, he having permitted his dogs to walk about from the time of operation.

He also suggests the advisability of removing a longitudinal section from the bone about to be transplanted, the better to give the nourishing fluids access to the interior of the bone. This latter has been done by other experimenters who found that, instead of such action as suggested might follow, this procedure merely accelerated the absorption of the bone.

The transplantation of the epiphyseal line has been the subject of much experimentation, particularly by Haas, Pfmeister and Todyo and, while the conclusions are not wholly in accord and while some believe that the epiphyseal growth could be demonstrated at the extreme periphery of the bone, yet generally the conclusions are in accord with that of Todyo, who says that "the epiphyseal line can be transplanted, but not without injury to its original character."

It has been urged that absorption is due to changed serologic relations, but Smith states that Lambert and Haynes have clearly shown that transplants are capable of maintaining their vitality under artificial incubation in heteroplasma of a limited variety of species, concluding that absorption is not due to a lack of proper food material, but rather to some inherent capacity of the cellular elements of the blood or surrounding tissue.

In handling the graft certain precautions must be borne in mind, since the success of many an operation has been spoiled by carelessness, not only in removing the graft but in its treatment before being imbedded. If any appreciable time elapses between these two processes, it should be placed in warm salt solution. One must carefully avoid contaminating it with any of the antiseptics ordinarily found in the operation room, for even in very weak solution, they are very likely to kill the cells.

It is recorded that immersion for three minutes in a 1-50,000 bichloride solution was always followed by absorption. Likewise, they were absorbed when the experimenter carelessly washed his hands in a 1-2000 bichloride solution, then rinsed them in sterile water before handling the graft. Immersion in alcohol, 1-20,000, for five minutes was always followed by absorption. They do not withstand freezing but Albee, after coating with vaseline, has kept them at a temperature of five degrees C° for forty-eight hours without impairing their viability. Heat, at a temperature of 110° F. has been found injurious; hence much care must be exercised in removing grafts to keep the saw from overheating, since, as before mentioned, the activity of the peripheral osteoblast, both of the host and of the graft, are most active in the formation of cementing bone. If the saw is used, as seems advisable, since it is followed by the least amount of shock, one must keep it constantly cooled by a flow of salt solution, in order that these peripheral osteoblasts may not be killed.

Bone transplants are now used chiefly in fractures, but also in supplying bone to bridge a loss of bony structure, such as a total or partial loss of a diaphysis, either from malignant, osteomyelitic, tuberculous disease or possibly from congenital absence; and to immobilize the spine, in cases of Pott's disease and fracture. Two methods are generally used, the inlay and the intramedullary, the first preferably since, giving close approximation of periosteum to periosteum, healing proceeds more rapidly and kindly. It frequently happens, however, that in the humerus or femur it is undesirable to do the amount of dissection that this entails, and in these cases the intramedullary splint is preferable, but in these cases it must be remembered that they act almost entirely as immobilizing agents and not as stimulants of osteogenesis. It may be necessary in some cases, in order to bridge loss of bone, to use an intramedullary with a sufficient shoulder to catch the cortex of the bone; but if this be done, it is essential that this shoulder be slotted into either end of the host bone, since the edges of the graft under pressure undergo necrosis and absorption of the osteoblasts until the pressure is equalized and compatible with the vitality of the surrounding tissue. Thus, while necrosis would be going on at the point of pressure, healing would be active at the points of contact of the side of the graft to the side of the slot in the host bone.

The absorption of the intramedullary splint or the intramedullary portion of a contacted splint, such as mentioned above, always takes place very slowly. They persist four or five years before completely disappearing. The insertion of the intramedullary splint into the medullary cavity of both fragments is often a very difficult matter, taxing one's ingenuity and strength to the utmost. Magnussen very cleverly obviates this by sawing his intramedullary plug from the shaft of either fragment, at such a distance from the point of fracture as not to interfere with the strength of the bone. This he forces into the medullary cavity, sliding it until it engages both fragments, and then fixes it in place with ivory pegs.

In closing we might add the technic of either is not difficult; it requires only patience and care in the fitting of the graft, and suitable apparatus for maintaining constant traction and support, until such time as it can be thoroly immobilized by plaster. While aseptic technic is imperative, one does not need the superlative form demanded for the success of the bone plating operation, and a moderate amount of infection is cared for by the natural processes. One must bear in mind that he must remove all impediments to early osteogenesis, such as sclerosed bone, and prepare his field with the minimum amount of trauma. As Albee himself says, "bone inlay is merely good cabinet work."

Whether or not it be advisable to extend the use of such to the treatment of fresh fractures is indeed a mooted question, and one which I will not attempt to answer, other than to state my own personal opinion, which is that its only justification would be in those cases in which the fragments can not be held in place by any of the ordinary retentive means and then only after all such had been thoroly exhausted.

PERFORATED ULCER OF STOMACH AND DUODENUM.*

By A. O. Loe, M. D., F. A. C. S.

SEATTLE, WASH.

This paper is a report of perforation in one gastric and three duodenal ulcers. As such cases always give an ulcer history of variable duration, I will refer briefly to the common symptomatology and treatment of simple ulcer.

The patient often gives a history so classic that Moynihan says it seems as if he is rehearsing the symptoms from a book, and he ventures to say that a diagnosis could often be made by mail. The irregular attacks of indigestion, with an interim of good health, sour acid belching, burning, boring pain in the pit of the stomach, coming on one-half to two hours after eating, relieved by taking alkalies or food, only to recur and be relieved again in the same orderly manner, are common complaints. They often take an alkali, water, or a glass of milk to relieve the pain on waking during the night.

Vomiting is not a common symptom; when it occurs there is probably some complication. Pain on pressure is as a rule in the midline in gastric, and a little to the right in duodenal ulcer. It may be thoracic in ulcer of the fundus. Blood in the stools is found in about 30 per cent of cases.

The x-ray is of great assistance in making the diagnosis, especially in chronic cases, while the physical examination and the stomach tube give valuable information in retention and hypersecretion. The laboratory findings are useful. but may lead us astray unless verified. The x-ray and the stomach tube may demonstrate a stenosed pylorus, a dilated stomach, and the degree of retention (if present), while on inspection the stomach may be empty and this condition overlooked, unless the above tests have been employed. Ulcers of the duodenum are more liable to perforation, while stomach ulcers are prone to malignancy.

The likelihood of perforation should not be underestimated at the time of operation. Many perforated ulcer cases recover without treatment, as frequently shown in postmortem examinations, and are not as fatal as generally considered. If the leak is slow, an opposing bowel, omentum or gallbladder may adhere and kindly shut it off. Meanwhile a slow peritonitis may follow, extend to the appendicial region and give a very good imitation of appendicitis. When operating in such cases we may find an inflamed appendix, but also a general abdominal condition that must have originated from some other source and a search will reveal the protected perforation.

Treatment of simple ulcers. Medical cures are numerous, but these cases have remissions and exacerbations. Without any treatment and by regulating their diet they improve. If they are taking medicine at the same time, the drug is given the credit for the apparent cure instead of the diet. Medical treatment will do something for these cases, altho I have little faith in its permanency except possibly in acute cases.

Treatment of the simple ulcers by gastroenterostomy is well established and this cures a large percentage by giving normal freedom of drainage, by reducing hyperperistalsis and by the alkalizing effect of the bile and pancreatic secretion. Closing the pylorus is still a disputed point. Some claim the gastroenterostomy serves as a temporary drain only, while the ulcer heals, later the stoma becoming practically functionless. It seems reasonable to suppose that a duodenal ulcer will heal more readily when the acid stomach contents are prevented from passing over it. In simple ulcer the results are about equally good with or without closure.

In patients giving a history of repeated hemorrhages the ulcer should be excised, cauterized or infolded, as bleeding may recur. Chronic indurated ulcers after middle age should be excised or cauterized. I believe the Polya resection is justifiable in such cases, as they are prone to become malignant if not already so. The general condition of the patient must be considered and a two-stage operation may be advisable. The absolute plan of operation cannot be made before actually seeing the lesion present, but as accurate a preoperative diagnosis as possible is a great aid in deciding quickly the procedure to be followed.

The use of stomach clamps may occasionally injure the mucous membrane and predispose to subsequent ulcer formation. If clamps are not used, the bleeders can be caught and tied, so we can feel secure against postoperative hemorrhage.

Chromic catgut leaves no possibility of stitch ulcer and has proven very satisfactory. A few interrupted silk reinforcement sutures on the serous coat can do no harm. The gastric incision should be a trifle longer than the intestinal to prevent binding, and the bowel incision is most favorably placed a little to the upper anterior side, that is, not at the extreme distance from its blood supply. This will give the more direct course for the gastric contents. The anastomosis opening should admit three fingers.

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A large v-shaped piece removed from the lesser curvature of the stomach results in a deformed organ which will not render as good function as a mediogastric or sleeve resection. Removing a section in hour-glass stomach produces a good functional result, but should not be attempted unless the stomach is easily mobilized.

Posterior wall ulcers perforating into the pancreas may be reached thru the gastrohepatic or gastrocolic omentum, or may be cauterized and sutured thru a transgastric incision, if small. The additional risk is justifiable in such serious cases, as the results are far better than obtained by gastroenterostomy alone. If the pancreatic involvement is extensive, the anastomosis alone should be made.

Dehydrated patients with pyloric stricture should have gastric lavage and Murphy drip several days preceding their operation. Pyorrhea and infected tonsils should not be treated just prior to the operation. It is better to treat them later or postpone the operation several weeks.

In an old perforated ulcer, where firm adhesions have formed, it is advisable to let Nature's attempt at a cure alone and to simply do a posterior gastroenterostomy.

In a firmly adherent duodenum it is good practice not to mobilize for inspection, as one can feel pretty certain that the ulcer is there if the clinical findings and the x-ray so indicate.

Excision of the ulcer in all cases would be the ideal treatment, leaving no ulcer base for possible development of cancer, but the mortality is slightly higher, and cancer occurring after gastroenterostomy is relatively rare. Glands about the pylorus may be enlarged in simple ulcer from inflammatory changes and should not be mistaken for carcinomatous metastasis.

Symptoms in Acute Perforation. In acute perforated ulcer early diagnosis and operation is essential, delay favors the development of a diffuse peritonitis, and every hour lessens the chance of recovery. We can always elicit a history of chronic indigestion, which is an aid in making the diagnosis. There is a sudden excruciating pain in the upper abdomen, gradually extending, also a rigidity of the muscles usually spreading rapidly over the entire abdomen. (If the stomach is empty and the leakage is slow, the pain and rigidity will not spread as rapidly as when there is much soiling of the peritoneum.) There may be dullness in the right flank, disappearing upon a change of position. Liver dullness is rarely absent. The patient early develops a state of profound shock, with pale, cold, clammy skin, an anxious expression, thoracic breathing, a rapid soft pulse and a subnormal temperature. In some cases this stage may be followed by marked improvement with partial relief from pain and rigidity, with normal pulse and temperature, a phase which has been described by Kennedy, of Dublin, as the "latent period." If we see the patient for the first time in this latent period, a mistaken diagnosis is quite likely to be made. Gradually the shock reappears with the rapid thready pulse and rise of temperature, due to peritonitis, and the storm breaks anew after the calm.

Treatment. Early operation is necessary to save life. Our object is to close the perforation and to prevent a general peritonitis. A right mediolateral incision is best. The escape of gas on opening the abdomen confirms the diagnosis. If water is poured into the abdominal wound before the peritoneum is opened, when the incision is made gas bubbles may be seen to escape. Most surgeons close the ulcer by a transverse suture, cover with omentum and make a posterior gastroenterostomy. Unless closing the ulcer would cause obstruction at the pylorus, I believe a gastroenterostomy at this time is wrong, as we are working in an infected area, upon a very sick patient, who can have another operation later under more favorable conditions, should it become necessary. Gentle handling and rapid operating are to be encouraged.

In late cases with general peritonitis, close the ulcer with a transverse suture, attach a piece of omentum and drain both the upper and lower abdomen. If the perforation is surrounded by infiltrated tissue, too friable to hold sutures and too extensive to excise, then a piece of omentum may be stitched over it, or a rubber tube may be slipped into the opening and surrounded by gauze, or simply a gauze drain fixed in place. A Finney pyloroplasty after excising the ulcer is often applicable and has proven efficient.

Most duodenal ulcers are located within one and one-half inches of the pylorus and on the ventral side. The pyloric region is also the most common site for gastric ulcers. These cases should be stimulated, propped up in bed and given rectal salines following the operation.

The four cases of acute perforation, which I wish to report, were all in males. Statistics show that ulcers occur more frequently in males than in females. In the following cases the classic symptoms as described were more or less present.

Case 1. C. S., teamster, 35 years old, was seized with severe abdominal pain while at work about 11 a. m. He was taken to the Seattle General Hospital with definite symptoms of perforated ulcer, the abdominal muscles being markedly rigid.

He was operated on within two hours. On opening the abdomen very little peritoneal soiling was revealed, a small perforation was found on the ventral side of the stomach, about one and one-half inches from the pylorus. The edges were trimmed and sutured transversely by several deep catgut sutures thru all coats, and by a second row thru the serous coat only, and a piece of omentum tacked over the suture line. Drains were inserted in the upper and lower abdomen. They drained very little and were probably unnecessary.

The patient made a rapid recovery but has had some indigestion since, and a gastroenterostomy in a case so slightly contaminated may have been justifiable.

Case 2. J. F., age 42, grocer, was seen at noon, Nov. 5, 1910, suffering so severely that a hypodermic of morphine was demanded and given before I was allowed to examine him. He gave an ulcer history of fifteen years standing. He refused an operation in spite of the probable consequences. I refused to treat him unless allowed to operate and heard nothing from him until the next morning, when I was told that he was willing. He had passed a fairly comfortable night, which could not have been influenced by the morphine given on the preceding day. I believe this case represents the "latent period," described by Kennedy. His pain had returned, he was vomiting, his pulse was rapid and thready, his temperature was 101°, his abdomen somewhat distended and rigid; he was in extreme shock.

On opening the abdomen it was found soiled with a large amount of cloudy fluid streaked with blood, the peritoneum being much injected. A perforation the size of a lead pencil was located on the anterior surface of the duodenum very close to the pylorus. An attempt to close the opening by suture failed because of the friable condition of the surrounding bowel. A large gauze drain was fixed in place over the opening, the abdomen rapidly sponged and a stab drain placed over the pubes. Stimulants were given and rectal saline administered on being put to bed. The patient died in forty-eight hours from a general peritonitis.

Case 3. S. G., male, 19 years of age, clerk in a department store, was seized with severe pains in the upper abdomen, about 8 p. m., Feb. 22, 1915, while walking on the street.

He was taken to Minor Hospital and operated upon inside of three hours, the usual incision being made. The perforation was on the duodenal side of the pylorus. The ulcer was excised, a Finney pyloroplasty was made, the pyloric and suprapubic regions were drained and the abdomen closed. The patient was put to bed in Fowler's position and rectal saline administered.

When he came out from under the anesthetic he had no pain, said he wanted something to eat. There was very little drainage and convalescence was as uneventful as if no perforation had existed. He has had no indigestion since.

Case 4. O. E., male, 55 years of age, captain of fishing boat, was admitted to the Swedish Hospital 10 a. m., Aug. 16, 1915. He was transferred to the hospital in an ambulance from his boat, which arrived from Alaska that morning.

His acute pain came on about midnight and he was suffering considerable pain when examined. He gave an ulcer history and many of the classic signs of perforation, but the possibility of appendicitis was considered. His leucocyte count was 14,000, pulse 80, temperature 98°, respiration 20. In consultation with Drs. C. W. Sharples and C. W. Knudson, the diagnosis of perforated ulcer was made and operation advised.

On opening the abdomen it was found soiled with a considerable amount of stomach contents. The ulcer, which was on the ventral side of the duodenum about one inch from the pylorus, was excised, a Finney pyloroplasty was made, the upper and lower abdomen was drained and the incision sutured. His pulse was 96 and temperature 100.6° the following day, both gradually became normal. He had very little pain and required no opiate. He developed considerable abdominal distension which was relieved by enemas. Convalescence was uneventful and his stomach has given him no trouble since.

POSTOPERATIVE GAPS IN THE ABDOMINAL WALL.*

By R. C. Boyle, M. D.
VANCOUVER, B. C.

During the strenuous war times we are convinced a solid wall of resistance at the front is absolutely essential. Any weak point is soon taken advantage of and such a thing as a gap in the wall is unthinkable, for it to exist is criminal, for it to be neglected is impossible; and so it is with gaps in the abdominal wall. The weak point in the abdominal wall is always encroached upon from within with but little delay, the pressure being generally exerted slowly, persistently and insidiously, sometimes as during strain or over exertion very suddenly and accompanied with great pain.

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It is the business of the surgeon to detect these weak spots as soon as possible. In order to do this each patient having had an abdominal section should be carefully examined for weak spots in the scar line especially at the top and bottom of the incision several times after he is up and around.

We have all one time or another had that unhappy and unfortunate sequel to an abdominal operation, ventral hernia. Fortunately sometimes we have early discovered weak spots ourselves. At other times it has been overlooked and the patient finds his way to some other man who may be a Christian or a heathen but, let him be as kind and considerate as possible to his confrere, the patient feels "sore" no matter how much work has been done successfully inside the abdomen. Altho the complication is not a dangerous one, except where there are huge gaps due to sloughing, retraction or of atrophy of muscle, it is one that causes considerable chagrin and disappointment to the surgeon and expense, inconvenience, great distress and loss of time to the patient.

Ventral hernia is met with frequently on account of the large number of abdominal sections for suppurative and non-suppurative conditions. I am satisfied I have had more cases come to me for this than for any other complications or weakness following operations. This is my reason for bringing to your attention today the great necessity for every care being taken in the prevention of these gaps in the abdominal wall and the different means of correcting them.

In most abdominal sections the incision is in or near the median line but the greatest number of ventral hernias follows the incision in the side wall and here also we find the largest gaps and those most difficult of correction. Hence no operation should be done by incising the lateral muscles that can possibly be avoided.

When is such an incision absolutely necessary and for what operation? I am almost prepared to say that a lateral incision thru muscle wall is never necessary except for the cure of ventral hernia.

In my experience of twenty-five years I cannot recall a hernia following an abdominal section done after McBurney's method. The large number of ventral hernias that occur following the operation for the removal of the appendix or for any other operation thru an incision that severs the lateral muscles with their nerve supply should convince us that the time has arrived for a general condemnation of all lateral incisions unless McBurney's or the transverse incision is employed.

Ventral hernias occur from many causes. Improper approximation of the different layers of muscle and defective sutures or suture material and suppuration, however, are the chief causes. Noble, of Philadelphia, in the last five or six years has had no hernias follow his abdominal sections. The secret of this success undoubtedly is due to his method of closing the abdomen by overlapping the aponeurosis. Even if he had suppuration occasionally, the overlapped tendon has not been so weakened as in the usual method of closure.

In closing the abdomen separate layer stitching is universal. The continuous catgut stitch is also in general use, but the introduction of thru and thru silkworm gut sutures before introducing the continuous catgut stitch should also be universally adopted. I use as extra precaution a few fine interrupted catgut sutures. The last two points are clearly illustrated by the experience of a friend of mine who, on seeing his patient a few days after an abdominal section which he had closed in his usual way, using catgut in the muscle and silkworm gut in the skin, found some of the omentum and bowels outside the abdomen and below the dressings. Fortunately no infection took place and after the abdomen was closed securely the patient did well. In this case many stitches gave way and often it is quite possible and probable stitches give way which we know not of, as nature is kind. In other cases we find a weak spot or ventral hernia.

I am inclined to think that catgut is not as uniform as before the war, possibly on account of the enormous output. In certain cases very fine linen or silk No. 60 to 90 is not looked upon with the same disfavor as in days gone by. Continental surgeons use it freely, it is easily prepared, is strong, the knots hold and are secure.

In the lateral incisions ventral hernia occurs frequently because the edges cannot be so accurately approximated as in the median line. The thru and thru silkworm gut stitch, which assists so much in the median incision, is not so readily applicable here, where it is much more essential. The nerve supply being cut off, malnutrition and atrophy of muscle are superinduced but one of the most important causes lies in the fact that the large and powerful muscles are incised that come into action so soon after the operation as, when the patient raises his head and lifts himself onto a bed pan or rolls over, any of these movements tend to separate these muscle ends. If continuous suture is used and one stitch gives way, and this is likely to happen as the stitch runs in line with the muscle fibres, the whole row is weakened and poor union and retraction of muscle follows.

When general laparotomy work is done, the full length incision from ensiform to pubes should be broken by leaving an arch midway a couple of inches wide. In very fat abdomens skin fat and upper aponeurosis may be divided, leaving the strong arch of Douglas as suggested by Delfor.

Hernia follows in 40 to 80 per cent. of cases, where suppuration exists for two weeks or more. This shows the necessity of every care being taken to prevent infection. No method is absolute proof against sepsis, cases being caused by conditions which the operator has no power to prevent. It may be in the tissues, fluids or virulence of the germ. Some people are more easily and readily infected than others, locally and constitutionally. Even mosquitoes, insects and vermin will attack some people and not others. The lack of drainage in fat abdominal walls may cause an accumulation of serum which may delay union or cause suppuration.

Treatment. The best cure of ventral hernia is not to have it. In all cases, where the edges can be approximated or the aponeurosis overlapped, the procedure is simple.

It is to those cases, where the abdominal gap is so large that there is no prospect of closing by direct suture, that I wish to especially draw attention. If it is evident the edges cannot be approximated in the median line gap without undue tension, releasing incisions thru the outer border of the anterior rectus sheath on each side will allow the fascia to be approximated. The space left on each side is sufficiently protected by the under sheath and rectus muscle. Small gaps on the outside of the rectus can be covered by a flap of the anterior sheath of the rectus muscle reflected outward and sutured. A small filagree of silver wire as devised by Bartlett will give added security.

It is in the closing of the huge gaps in the lateral wall, where general evisceration takes place, that we have the most difficult and interesting problem to solve. In place of the usual practice of covering the gap with silver wire filagree and securing it in place, I have with satisfactory results retracted the skin to the median line, split up the rectus close to the anterior sheath four inches and reflected it as a hinge over the gap, which was two by three inches, and secured it firmly. The patient who before the operation had almost general evisceration was in due time able to be up and around with comfort. I had occasion to do a gastroenterostomy on her later and, finding a couple of weak points in the fascia, introduced over it a soft silver wire mesh fence three by four inches, oval-shaped. The transplanted fascia and new formed scar tissue will, I hope, develop and become stronger, so that they will be a sufficient barrier to the gap, if it is ever thought wise or necessary to remove the wire fence. If no lateral incisions were made, no wire fences would be required in the abdominal wall.

While mention has been made above of the various methods, emphasis must be laid on the statement that the use of any particular one is purely a matter of expediency. The operative procedure, adapted to meet the exigencies arising in the case itself, the surgeon alone must determine.

PARALYTIC ILEUS IN GUNSHOT WOUNDS OF THE ABDOMEN.*

By R. D. Forbes, F. R. C. S. (Eng.)

SEATTLE, WASH.

In the practice of civil surgery we are familiar with the frequency of meteorism and its associated colicky pains following abdominal operations. The pathologic basis is probably a form of local paralysis, usually slight and temporary, of the small intestinal tract. In the practice of military surgery the nature of the lesions is such that this milder complication is not often present and the more serious form of paralytic ileus is probably more common. Many of the fatal cases do not survive long enough for this obstruction to declare itself, but nevertheless a small proportion will suffer from it and its relief will be the only condition necessary for recovery. In its production there are many factors and the pathology lacks definition. The parts played by the plexuses of Meissner and Auerbach, by the peristaltic power of the muscular wall and the influence of vagus and splanchlic control, are not in clear perspective.

Essentially paralytic ileus is the result of shock and peritonitis, both of which may be local or general. Bearing on these are contributing factors of greater or lesser value, which call for examination in the discussion of its prevention and treatment. Shock from trauma is produced by many projectiles, each of which, in a general way, is causative of a different degree and variety of effect. The numerous small perforations from bomb and grenade wounds are limited in their action, while the short range bullet or shell fragment is productive of a disturbance far beyond its obvious track. The effects of the latter are explosive or divulsive and the vibrations they set up in the fluids of the body produce microscopic changes in structure and alterations of nerve function in a considerable part of the abdominal area. In a solid tissue, such as the muscles of the thigh, these effects have been studied and described by Sir Anthony Bowlby and he has shown how extensive is the fragmentation of muscle bundles, blood extravasation and necrotic change well beyond the macroscopic injury.

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*Read before Annual Meeting of North Pacific Surgical Association, Victoria, B. C., Dec. 14-15, 1917.

Similarly the shock to the various abdominal plexuses of the sympathetic system must be an important factor in the production of ileus. Peritonitis from trauma is local, but fecal extravasation and effusion of blood are effective in its wider distribution. Fortunately, a paralyzed coil retains its contents and has been seen to lie inactive several hours, or even three days, as recorded by Watson-Cheyne, after injury. Extravasated blood, however, is far from innocuous and bacteriologically it has been found to teem with streptococci. The widespread peritonitis so commonly found in fatal cases is thus easily accounted for.

An infrequent factor in causation is thrombosis and hemorrhage from injury to the mesenteric vessels. With extravasation of blood between the layers of the mesentery and its inevitable disturbance to the nervous mechanism and vascular supply, there is a corresponding paralytic inactivity of the bowel segment.

Scybala must also be included in our list, as ileus consequent upon their presence is postoperatively not rare. Hughes states that in his experience it is a more common cause than peritonitis.

Sampson Handley has described a condition associated with the peritonitis of a perforated appendix which he designates "ileus duplex," because there is a double paralysis, the small bowel as well as the large within the pelvic cavity being involved in obstruction. As peritonitis advances toward the higher segments of the ileum and jejunum, obstruction follows quickly and he well describes it as a race between the two. His operation for its relief by entero-transverse colostomy and cecostomy is a method sometimes applicable to a similar condition following gunshot wound. These wounds are usually thru the pelvis, perforating the bladder or small intestine, or both.

When the paralysis is complete, from whatever cause, we have a similar pathology to the ileus of civil life. The small bowel above the injury becomes filled with its own secretions, which in turn irritate the mucosa and produce a further outflow. Stagnation, with accompanying toxemia, completes the vicious circle and the distention advances towards the jejunum and stomach.

Treatment of paralytic ileus must include a rational prophylaxis which might legitimately be said to begin with the injury. From this moment until the wounded man is on the operating table much can be done to conserve his vitality, minimize shock, delay the inevitable symptom-complex of intestinal perforation and prepare him for the operative ordeal. Speed is of prime importance in shortening this interval and statistics are definite in their proof of the value of early operation. Favorable in the average case during the first twelve hours, the prognosis of intestinal perforation becomes increasingly unfavorable after that time. Blankets and hot water bottles, sips of hot water and the injection of morphine in doses not to exceed half a grain, are all important measures. If possible, saline per rectum or subcutaneously has distinct value and encourages the elimination of fatigue products during its excretion. Also the radiant electric bath over the whole body should be given when shock is great and an hour or two's delay is advisable. Camphor in oil or pituitrin have demonstrated their value in this condition, and water by the mouth has never given us cause for regret.

With the laparotomy begun, certain salient features of the intra-abdominal technic must be clearly before us, as a moderately slavish routine will enable us to complete our work in the minimum of time; and time is probably our greatest element in success. Ordinarily forty or fifty minutes only should be allowed. A paramedian incision of good length is usually most advantageous and enables manipulation within the abdomen to be done without tugging at the mesentery or pulling on the bowel.

Having identified the ileocecal junction, the small gut is rapidly passed in review for its whole length. Intestinal perforations or bruises, and hemorrhage or laceration of the mesentery are noted and a clamped sponge placed for identification of the part after a complete examination has been made. Thus one is not chagrined to find, after suturing a number of perforations, that they could all have been easily included in an inevitable resection. Blood and extravasated feces are wiped away with dry gauze, as saline or other solution within the abdomen at this time is a detriment and serves only to increase peritonitis. If hemorrhage is active, its most usual sources in the liver, spleen, large mesenteric vessels or even small gut wall are quickly examined. Bruises of the bowel wall must never be left uncovered as gangrene of these areas has been a not uncommon postmortem finding.

In the treatment of perforated or lacerated wounds of the small intestine two methods are available. To close them by a purse string is by far the preferable one in selected cases. The mortality of resection is double that of suture, tho the time of its performance is not necessarily so long. One might say that numerous sutures should be done if a resection can be avoided. Where resection is indicated, and this is a matter requiring experience and judgment, general opinion now agrees that the end-to-end method is to be preferred. Time for fancy suturing is not necessary, speed being so important. Men of experience state that the mesenteric attachment is not the dangerous area in this procedure and rapidly performed anastomoses have always been found intact, where subsequent postmortem was made.

In 1915 Richards advocated a wide resection of the wounded part before making the anastomoses. He had had a series of cases where a paralytic block had occurred when only four or five inches had been removed, and he claimed that, by removing from two and a half to four and a half feet of intestine above the injured point, he was able to obviate this complication. About this time or later other surgeons were advocating a primary short-circuiting of the resected area as a prophylactic measure. Certainly in the cases I have observed the freedom from postoperative distention, let alone obstruction, was a feature of their convalescence. The method, however, has not proved satisfactory, as difficulties have occurred with the excluded segment and I am familiar with cases where a persistent diarrhea with a fatal termination has followed an extensive segregation.

There has been much controversy as to end-to-end and lateral anastomoses, the first it is said being more frequently followed by obstruction, the latter consuming more time in its performance. Certain improvements in the end-to-end method, however, have tended to establish it as the one of choice. Thus, Fraser proved experimentally that, where the mucous membrane was excised before junction, there was no interruption of the peristaltic wave, and Lockwood, in a series of 500 abdominal operations, claims that paralysis has never occurred where he adopted the maneuver of milking the bowel before closing the abdomen. My experience with this procedure was also most favorable. It consists in emptying the distended portion from its upper limit into that portion below the resection line and even, where the bowel is not distended, the gut is emptied for a short distance.

Mesenteric injury demands careful treatment, as a laceration or hematoma often means paresis of the related coil. Fraser and Drummond, however, have concluded from recent clinical and experimental investigation that it is possible to sever two or three inches of the small bowel from its direct mesenteric blood supply without gangrene occurring.

Bearing on the subject of ileus, we also have the matter of drainage of the peritoneal cavity. It has been said that "no surgeon has started to do abdominal surgery until he has given up draining the peritoneal cavity." Colonel C. S. Wallace, whose experience is unique, entirely concurs in this point of view, and says that his work in civil cases, as well as with the gun-shot wounds, has never encouraged him to change it. The vast majority of surgeons have not the courage to close the abdomen, where there is gross or even moderate contamination. They at least place a drain in Douglas' pouch and may drape with green protective the area of injury.

Postoperatively the measures used are those familiar to us in the practice of civil surgery. The Fowler position, various rectal solutions, gastric lavage, turpentine stupes, small doses of morphine, small doses of magnesium sulphate or calomel, rectal tube, and sips of brandy or champagne are some of these. The sheet anchor, however, is eserine salicylate and atropine sulphate hypodermically, sometimes followed by an ampule of pituitrin and a turpentine enema. We have always given the pituitrin into a muscle or vein and have employed the eserine in doses of gr. 1/40, atropine gr. 1/150.

Where ileus has become established and all other measures have failed enterostomy is indicated. A large catheter is introduced into a distended portion of the small bowel and if necessary lavage may be carried out. A small puncture is made in the bowel, preferably by means of a cautery and smaller than the catheter to be employed. The previously inserted purse string suture is usually sufficient to hold the catheter in place. It is important where possible to bring the catheter thru a slit in the great omentum, thus utilizing this structure for protective purposes. It is well also to do our enterostomy as high as is feasible, for Whipple's work has well demonstrated the importance of lavage of the duodenum and upper jejunum in order to remove the toxic proteoses formed in this area in cases of paralysis. Where necessary more than one catheter might be used for effective lavage of the distended area.

Colonel Wallace, in his summing up of the situation, says, "The surgeon need not worry about the bowel, which will cause little trouble if the patient is going to do well. If he is not going to do well, and it is mostly a matter of peritoneal sepsis, purgatives and enemas will have title effect." He has seen much discomfort caused by too energetic efforts to produce a movement.

Besides injury to the jejunum and ileum, many other conditions indirectly affect the production of intestinal obstruction. We may mention retroperitoneal sepsis, hemorrhage from the solid organs, injuries to the bladder, concussion of the spine and wounds of the extraperitoneal tissues generally. These, as well as wounds of the stomach and colon, we omit to discuss, as the greatest factor of surgical interest is trauma to the small intestinal tract.

INTESTINAL OBSTRUCTION.*

By Alexander S. Monro, M. D.
VANCOUVER, B. C.

Symptoms and Signs.

(1) Pain, initial usually severe; at umbilicus later, colicky; visible peristalsis and vomiting.
(2) Collapse. Face pale and pinched. Temperature subnormal in early and important stage.
(3) Vomiting, of obstruction. Small intestine persistent and intractable. Relieved temporarily by starvation and lavage of stomach, brown and offensive, fecal.
(4) Constipation absolute for feces and flatus.
(5) Peristalsis, when seen of importance.
(6) Quickening pulse, at first slow and weak, later quick and weak.
(7) Thirst usually severe, especially if small intestine involved.
(8) Insomnia marked.
(9) Distension. Of all the symptoms complete obstruction is the most important.

If time permits, a fairly accurate diagnosis of the nature of the obstruction should be made before opening abdomen. This is often of great value as it permits of consideration of the various steps of the operation and of anticipating some of the difficulties that may have to be encountered. *Causes of obstruction* may be

(1) Pressure on bowel from outside.
(2) Disease of wall of bowel.
(3) Foreign bodies in bowel.

Amplified further as follows:

(1) (a) External hernia, (b) bands and adhesions, (c) internal hernia, (d) contraction of the mesentery, tuberculosis, carcinoma.
(2) (a) Intussusception, (b) volvulus, (c) kink, (d) stricture, malignant and simple.
(3) (a) Gallstones, (b) enteroliths, (c) actual foreign bodies.

As a rule, obstruction of small bowel acute, of large bowel chronic but exceptions to both.

Treatment. When faced with possible intestinal obstruction, the most important thing is to come to a decision without delay.

(1) First try large enemata. If only a few scybala come away, intestinal obstruction may be safely diagnosed.

(2) Examine the vomitus. As soon as it becomes offensive or brown, intestinal obstruction is present.

A weak and slow pulse and subnormal temperature are strongly suggestive; increase in pulse means patient is getting worse.

The successful treatment of acute intestinal obstruction depends largely on (1) the question of operation, and (2) the question of the extent of interference that is indicated in any given case.

(1) If we accept the authority of Sir. F. Treves, who says "there is no avoiding the fact that acute intestinal obstruction if unrelieved ends in death," then it clearly becomes the duty of the surgeon to operate on every case. Moreover, the

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operation should be performed at the earliest possible moment after the diagnosis has been made. Serious as the operation is, delay increases the danger tenfold and even an uncertainty of diagnosis should not deter the surgeon from opening the abdomen and ascertaining the cause of the trouble. Better even in these cases that operation should be a first rather than a last resource. In many it is the only resource.

(2) Extent of interference in a given case. The operation must be according to the state of the patient. If the condition is dealt with early and when patient is in good shape, more prolonged search may be made. If he is in collapse and toxic, enterostomy only.

Preparation for Operation. Shaved, bladder emptied, morphine and atropine one-half hour before operation. Stomach washed out in every case. This reduces risks of regurgitation and aspiration into lungs. Saline infusion may be given.

Anesthetic. Choice of anesthetic is an important one. Impeded respirations due to distension and vomiting makes general anesthetic dangerous. Besides, a general anesthetic is especially depressing in acute intestinal obstruction. Ether (open), chloroform, spinal anesthesia and, in very grave cases, local anesthesia gas and oxygen.

Operation will vary. (A) Early cases, condition of patient good. (B) Late cases, condition of patient bad.

(A) *Early Cases.* A five to six inch incision is made in right rectus, commencing just above the umbilicus. Get plenty of room; it saves time and prevents needless damage.

Exploration with hand in abdomen. Examine

(1) Area of cecum. (a) empty or distended. Obstruction above or below. (b) State of appendix.

(2) Area of pelvis, particularly in women; bands, adhesions, etc.

(3) Inguinal, femoral and obturator rings.

(4) Region of umbilicus, diverticular bands.

If search is unsuccessful, then loops nearest wound carefully scrutinized. Most distended coils nearest obstruction rise to the surface. These should be followed in direction of increasing distension and congestion.

If there are grounds for believing acute condition has followed a chronic one, the sigmoid and colon should be investigated. When transverse colon is distended and sigmoid empty, splenic flexure is likely the site of the trouble.

If a careful search has failed to locate the obstruction, then the following courses are open:

(a) Allow the bowels to escape under warm moist towels. This prictice recommended by Treves. Less damage this way than by manipulation inside abdomen. Enlarge incision; protect the coils. Time is saved in moderate distension; is not dangerous and permits rapid operation.

(b) If distension is great, then one must first empty the coil before proceeding. In the case of colon, this procedure is often very effective and, if the obstruction cannot be removed, a temporary or permanent colostomy should be done or in suitable cases a short-circuitinig may be advisable. If the small intestine is most distended, puncture or incision is of little avail. A long tube may be of some help to empty the bowel of its toxic contents. Even if obstruction is removed, it is often advisable to tie in a tube for a few days, as distended bowel will not recover without free drainage.

(c) When patient's condition makes further search impossible, a temporary artificial anus must be made.

(d) Rarely a short-circuiting operation may be the advisable course, particularly in a case of chronic obstruction becoming acute, e. g., matting of intestines. If gangrene is impending or already present, an enterostomy is safer and better.

(B.) *Late Cases.* Here only the briefest search can be made. The most prominent coil within reach of the fingers is pulled out, opened and a tube tied in.

IMPORTANCE OF EARLY DIAGNOSIS OF INTESTINAL OBSTRUCTION.*

By W. B. Holden, M. D.

PORTLAND, ORE.

The early recognition of an obstructed bowel is too seldom seen. If the surgeon is to obtain the best results, early diagnosis is imperative. With the possible exception of perforated viscera and rapid hemorrhage, no acute surgical condition of the abdomen demands so prompt diagnosis as the obstructed intestine. An acute appendicitis unrecognized and untreated will often recover. Cholecystitis may exist for weeks, months or years unsuspected and the patient not die. Ulcer of the stomach may perforate into the lesser peritoneal cavity with delay in diagnosis for many days, and still be followed by recovery. Ruptured ectopics frequently are not suspected and the women survive. An undiagnosticated mechanical obstruction of the bowel of two, three, five or seven days duration, regardless of treatment, quite inevitably means death.

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About one-half of the operated cases of mechanical ileus perish; these die because the operation was delayed for one, two or three days waiting for a diagnosis. At least 80 per cent. of the surgical mortality of obstruction is caused by a tardy diagnosis. Sufferers from intestinal obstruction generally seek medical advice within a few hours of its incipiency. The distress and pain demand a physician's presence. Hence, the profession must assume the entire responsibility in any unwarranted delay in diagnosis. Were there no hypodermics there would be earlier diagnosis. When, O when, will the doctors cease giving opiates in abdominal distress! Notwithstanding all the teaching and admonitions against the use of morphine in such cases, too many are giving it even now, 1917. This is done not alone by the physician in the country but in our large cities, in our large hospitals, by men who regard themselves as experienced and competent surgeons.

The recognition of acute obstruction is not difficult; the diagnosis may be made at the bedside. It is not necessary to consult the laboratory or resort to the x-ray to determine its presence. The first symptom is severe, crampy, colicky, abdominal pain; the onset is sudden and the distress is intense; the pain is so severe that the patient is quite prostrated; rest and sleep are out of the question. Vomiting is an early symptom. The vomiting at first is reflex, but later it is continuous, due to reverse peristalsis and overflow of the intestinal tube. Fecal vomiting should never be seen, as its occurrence indicates that the case has been woefully neglected. There may be great thrist, especially if the obstruction is high up. The patient will complain of constipation and inability to pass flatus. The bowels, early, may move once or twice after the onset of the obstruction; that is, the bowels empty below the obstruction. After this, there will be no bowel movement and no passing of gas. There will very likely be a history of previous abdominal operations. This has been true in over a third of my cases. The bedside examination of the patient is all-important.

Inspection. The patient looks sick; his face has an agonizing expression; the abdomen may or may not be distended. An obstruction near the upper end of the jejunum may never present distention. To wait for distention in any case is to waste valuable time. Many lives are lost because the attending physician delays until distention appears to confirm the diagnosis. An absolute diagnosis should be made before the abdomen becomes distended. The demonstration of visible persistalsis is the one most important sign, and its presence is practically pathognomonic. Its importance is not sufficiently emphasized by writers. Its detection requires a good light and the entire chest and abdomen exposed. The observation may be made across or lengthwise the patient, and the observer's eyes should be just a little above the level of the abdomen. Ten, twenty or thirty minutes may be required to discover the distinct peristaltic waves as they pass across the abdomen. Occasionally the muscular contractions of the intestines will be light or cease altogether for a time. In this manner they resemble the varying intensity of labor pains. Should the attempt to demonstrate visible peristalsis be made during a comparatively quiet period, one might fail to see the waves. Hence, repeated observations for this valuable sign should be made. When it is seen, have no hesitance about the diagnosis. In the very fat its presence will be difficult to detect. The writer has never failed to demonstrate its value in all cases. Several suspected cases of obstruction have escaped an unnecessary operation because visible peristalsis could not be shown.

Palpation offers some aid. The abdomen is not very tender. A sausage-shaped tumor in the left loin may be felt in intussusception. Rectal examination may feel the intussuscepted bowel or a fecal impaction. A large gallstone in the intestine or other obstructing foreign body might be felt, such as obstructing carcinoma or other tumor. There is often a flaccid, doughy feeling to the abdomen as the whole hand is used in palpation. The muscles of the abdomen seem to have lost tone and are flabby. Generally there is tenderness and abdominal rigidity of varying grades.

Percussion seldom reveals anything of importance.

The *stethoscope* will demonstrate large explosive sounds as peristalsis forces the bowel contents suddenly against the obstructed point. Audible peristalsis is marked. The rumblings of peristaltic unrest can be heard.

Cathartics. Some people are brave or credulous enough to try anything once. No one should try cathartics even once to prove the patiency of a suspected obstruction. However, rare indeed is that case of ileus which has not only once, but repeatedly been "tried" with cathartics. Within the last three years, in an exclusive high grade surgical journal, a surgeon with national reputation on a hospital staff in a large eastern city, chronicles his practice. In suspected cases of ileus he gives powdered charcoal with cathartics and, if he recovers the charcoal in the stool, there is no obstruction. If he does not recover the charcoal, the undertaker promptly gets about 60 per cent. of his cases. Enemas may be given, cathartics never. An enema will safely do all a cathartic possibly can. In intussusception the enemas may return blood stained.

There is never initial fever in the purely mechanical obstruction. A short time before death there may be fever. The pulse will not be greatly disturbed until late in the disease.

Mechanical Ileus. It is not necessary to determine before operation the nature of the mechanical ileus or its location. The essential conclusion is that somewhere in the intestinal tract there is some kind of a mechanical obstruction. Mechanical ileus must be differentiated from paralytic and reflex ileus. Murphy's classification of these into dynamic and adynamic makes a good clinical working basis. The dynamic, non-mechanical ileus, such as occurs in lead and cheese poisoning differs in symptoms from the mechanical, in that there is no visible or audible peristalsis. The adynamic varieties of non-mechanical ileus are reflex and are due to a variety of causes, such as appendicitis, cholecystitis, pancreatitis, diaphragmatic pleurisy, peritonitis and kidney stone. Initial fever is present in these conditions and rules out mechanical block.

Within the last year the writer saw in consultation a classical case of mechanical ileus. The attending surgeon had excluded obstruction because there was no fever. This case suffered an unnecessary thirty-six hours because of failure on her physician's part to remember that there is no fever in uncomplicated mechanical ileus.

Visible peristalsis is absent in adynamic ileus. The vomiting is not so persistent and continuous. An appendicitis, cholecystitis or renal colic may early produce several efforts of vomiting but they will not keep it up for a day or two.

Perhaps the most puzzling problem that ileus presents is in those cases of drainage appendices. The obstruction occurs three days to three weeks or later, after the primary operation. These are the cases that the surgeon himself sees from the onset, and he can not hedge or dodge the responsibility of an early diagnosis. The case is infected and active drainage may be present. The patient has had more or less stormy time following the appendicitis. Under these conditions one feels that he must be certain that a mechanical obstruction is present before jeopardizing the life of the patient. In these cases exploratory operations, in fact almost any operation in the abdomen is quite inexcusable except for mechanical ileus. There will be a period for a day or more of relief following the storm occasioned by the first operation, then sudden pain, vomiting, no fever, locked bowel and visible peristalsis will tell the story. These are the cases in which cathartics have been and are now so vigorously exhibited. Their use is positively dangerous. These are the victims of charcoal and cathartics to determine the diagnosis, as advocated by the surgeon just mentioned. In his personal cases, occurring in his practice before they left the hospital following drainage appendices, only one out of six survived this method of diagnosis. Relying on the history and the visible peristalsis for diagnosis in an equal number of the writer's cases, all have survived the diagnosis and the operation. In no case has the presence of visible peristalsis led to an unnecessary operation. Many times dangerous and useless operations have been avoided, when the absence of visible peristalsis indicated a non-mechanical factor in the apparent obstruction.

Finally, physicians should forget about distention and fecal vomiting in mechanical ileus and remember that colic, vomiting, a locked bowel, no fever and visible peristalsis are the cardinal signs of mechanical ileus, and that cathartics or opiates should never be given anyone presenting the above symptoms. If doctors would keep in mind the above few, simple facts, 95 per cent. of the cases of mechanical ileus would be recognized within twenty-four hours of their beginning, and the rest before the second twenty-four hours had passed. These early diagnoses would reduce the present operation mortality of 40 or 50 per cent. to 5 or 10 per cent.

For the time expended and the skill required, there is no field in medicine or surgery which promises such great rewards as the early recognition of mechanical ileus. These rewards are open to the most modest and ordinary minds among physicians.

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EDITORIAL

The Spirit of '18.
The World Cry—
food!
Cultivate the Soil.
UNITED STATES FOOD ADMINISTRATION

THE TRI-STATE MEETING.

In 1909 the medical associations of Oregon, Washington and Idaho held a common meeting at Seattle, at which time it was voted to hold a tri-state meeting every three years, rotating among the three states. On that occasion the other two states canceled their meetings to combine with Washington. In 1912 the tri-state meeting was held in Portland. About that time it was thought to be desirable for each association to hold its separate meeting, in addition to the union meeting of the three. Therefore, in 1915, when the tri-state meeting was held at Lewiston, Oregon and Washington each held an additional meeting of its own.

This is the year for beginning the second series of tri-state meetings, starting again with Washington. The Oregon and Idaho Associations have decided to return to the original plan and unite with Washington which will hold its meeting in Seattle and their own separate meetings will be canceled for this year. This tri-state meeting will be held July 17-19. Arrangements will be made for separate meetings of each House of Delegates, the details of which will be announced later. At this time we can give no particulars as to the program. It has been decided to make it, however, very largely of a military character. Subjects pertaining to the war will, therefore, occupy a large place on the program. Papers will be presented by representatives of the three associations, while a leading part will be given to distinguished visitors from the east. In our next issue we will present as complete a program as is available, together with some details concerning entertainment and other matters which may be determined at that time.

IMPERATIVE NEED OF MORE ARMY DOCTORS.

An urgent appeal has been made by the Surgeon General of the United States army for the enlistment of additional medical officers. At the present time 16,042 are on active duty in the Medical Reserve Corps. This force will care for one million and a half men who will be in France by the end of the year. It is announced, however, that the secretary of war will ask for an immediate increase to three million which will require an immediate addition of 15,000 officers to the Medical Reserve Corps. Within the next few months this second draft will be made, to be followed by other drafts as needed.

The Surgeon General says, "I can not emphasize too strongly the supreme demand upon medical officers. It is not now the question of a few hundred medical men volunteering for service but one of the mobilizing of the profession. The conservation of our resources, especially that of man power, depends entirely upon adequate medical service." In order to meet this demand there is talk in government circles of conscripting the medical profession, which may be a necessity if doctors do not volunteer in sufficient numbers. Every physically qualified physician between the ages of 21 and 55 years should seriously consider the question of applying for a commission and do so at the earliest opportunity. The medical profession of the United States must stand behind its soldiers and protect them at the front. If the winning of the war depends upon the American army, as has been stated from many sources, the success of that army depends upon the medical profession of the United States. The physicians of our country possess the patriotism to respond to this appeal.

CONSCRIPTION AND ITS RELATION TO MENTAL AND NEUROLOGICAL DEFECTIVES.

A contribution by Dr. Robert Percy Smith, in the April number of NORTHWEST MEDICINE, seems worthy of comment. Dr. Smith says:

> "To be *mentally* sound for such war conditions as try men's souls is, we believe, of far more importance than to pass the eyesight test or to be typhoid-proof. Reports from the allied armies at the front show that hysteria, neurasthenia and the conduct of those predisposed to shell-shock are as contagious as many exanthematous diseases."

The literature on shell-shock in the English journals probably equals or exceeds that of any other phase of war literature. The *Journal A. M. A.* has had many short contributions touching upon the desirability of admitting to the army only those who are nervously and mentally sound. This is emphasized by letters from the front from all classes of physicians and surgeons. The *Journal of Nervous and Mental Disease* devotes much space to this phase of war activity. Numerous complaints and criticisms are made of medical men for passing mental incompetents thru the board of examiners. Yet the difficulty of eliminating victims of borderland conditions or those which are not clearly defined is great. The writer, serving on an advisory board, has examined several hundred candidates who claimed exemption. Of this number not more than ten based their claims on the ground of mental or nervous defect, these including two who had been in an asylum, two epileptics, two neurasthenics and one victim of "periodic paralysis."

The Manual of Instructions for Medical Advisory Boards directs that those who have been insane, who suffer from clearly defined major epilepsy, or who have been incapacitated by neurasthenia, hysteria or allied disorders for six months immediately preceding examination shall be rejected. In other words, it orders rejection of conscripts who have well recognized disorders which do not require expert investigation. But the instructions allow the examiner the exercise of no discretion in so far as borderland conditions are concerned. Many conscripts who were obviously subnormal have appeared, none of whom seemed aware that he was different from other men or, if aware of it, was willing to admit it. These candidates behaved in a sluggish way, often showed marked stigmata of degeneration, had cyanotic hands and feet and almost always impressed one as being subnormal. They were without exception potential victims of shell-shock. They were unfit for military duty, yet, unless the mental disorder was obvious, they were passed as competent. The instructions do not permit rejection of such persons even by the neurologist.

It is probable that, could all advisory boards have a trained neurologist as a member, more liberty of judgment would be permitted. Herein is no criticism of the manual, for instructions must be made as far as possible to include all manner of boards. On the other hand, as soon as these men get into the army, under the strain and stress of drilling, their defects will become manifest. Examiners such as Dr. Smith will discover them and everybody will wonder why the original examiner and especially the original advisory board did not reject them. Of course, it is not to be contended that every man with minor stigmata of degeneracy is useless. Such persons can do other work than fighting and may render fairly useful services. But they can serve no useful purpose where there is danger and where reliability is a necessary corollary to success. It is quite likely that, with increasing experience with conscription, provision will be made for better classification by the original boards, and that all defectives will be kept at home and made to serve in occupations where their defects will, under supervision, be minimized and their good qualities used to best advantage.

THE BACTERIOLOGY OF POLIOMYELITIS.

The work of Dr. Horace Greeley on the bacteriology of poliomyelitis, of which a preliminary announcement was published in the *Medical Record* of Jan. 13, 1917, and complete details in the *Journal of Laboratory and Clinical Medicine* and NORTHWEST MEDICINE, May, 1917, has recently been completely corroborated by Drs. E. C. Rosenow* and L. D. Bristol†. It will be remembered that Dr. Greeley grew from the nerve centers of cases succumbing to the 1916 epidemic a pleomorphic bipolar bacillus which he caused to grow as the globoid bodies described by Flexner and

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* American Journal of Public Health, Dec., 1917.

† Journal of Medical Research, Jan., 1918.

Noguchi and also in the form of the streptococcus described by Rosenow. Working with cultures obtained from the latter, he developed from Rosenow's "streptococcus" the pleomorphic bacillus. This bacillus, besides being susceptible of modification of form between the globoid bodies thru streptococcus or diplococcus forms to bipolar bacilli, he found also subject to change from Gram-positive to Gram-negative. The fully developed bacillus was found to be motile, with a single terminal flagellum, would liquify solidified serum, produce an acid reaction in neutral bouillon and develop spores. Five out of six strains isolated by Dr. Greeley failed to produce gas in sugar media; three out of the six produced a slight amount of indol. He found that the organism would pass the Berkefeld filter and would grow at all temperatures between summer heat (70° F) and that of the body.

Dr. Greeley's cultures grew readily in market milk and in it resisted the pasteurization process. Experimenting on animals he produced paralysis with nerve center lesions in dogs, cats, rabbits and guinea-pigs and also typical attacks of distemper in young dogs and cats. A culture accidentally dropped in the experimenter's eye produced an abortive case of the malady and mucus from his throat produced paralysis in a rabbit, and a contagious fatal disease with nerve center hemorrhagic manifestations among guinea-pigs.

Dr. Greeley tested the organisms isolated with blood serum from fifty convalescents of the 1916 epidemic and found that, while agglutination was ordinarily not produced in high dilution, a specific relation was evident. In animals (cats) he produced antipoliomyelitis sera that agglutinated in high dilution the cultures used to produce them, but varied considerably in agglutination of other cultures (strains). Using this specific serum and sera from human poliomyelitis convalescents, he showed that a distinct relationship existed between the poliomyelitis bacilli and a bacillus isolated from a case of distemper in a dog.

Dr. Rosenow now states that he finds that his "streptococcus" will produce the bacillus form, and Dr. Bristol, working with one of Flexner's cultures obtained from the Rockefeller Institute, developed from the globoid bodies bacilli such as Dr. Greeley described. Dr. Bristol concludes, "From these studies I venture to suggest the possibility that the organism of poliomyelitis is a pleomorphic bacillus (often indistinguishable, however, from a true coccus), and that it may be closely related to the large group of so-called bipolar bacilli, or pasteurella."

"Based on this assumption, the mode of spread may be considered analogous to that demonstrated for all forms of pasteurellosis in animals, namely: (1) directly, by contact with the fresh secretions or excretions of an infected individual (either diseased or a healthy 'carrier'); (2) indirectly, by the carriage of the specific organisms by insects, or possibly in dust, uncooked food, or drink." This is practically the same conclusion announced by Dr. Greeley some six months previously.

IS CHRISTIAN SCIENCE DECLINING?

Dr. M. Allen Starr, in a delightfully instructive essay in the *Medical Record* for December 29, on "The King's Evil and Its Relation to Psychotherapy" says among other things, "I think we may also cite the results of christian science, on which men would not spend their money if they did not get some return, as a further example of the personal element in handling many minor ailments successfully. It is also a matter of fact that since Mrs. Eddy's death the sect is rapidly declining in influence."

With the first part of this paragraph many physicians will agree. With the second, we at least of the Pacific Northwest cannot so fully agree. Christian science is a fantasy which has lured into its following almost untold numbers of human beings (when one is exasperated at their follies, one feels inclined to classify some of them otherwise) and, like everything that is new and pleasing, it was received with open arms. It seemed to promise some panacea which, not unlike the Fountain of Eternal Youth, has ever lured the unstable to pursuit.

While Mrs. Eddy lived, christian science flourished as the green bay tree, not only in the increasing numbers but in the influence of its followers. She exerted a marvelous power upon the hosts of believers, fascinating them by her literary productions which were at once obscure, incomprehensible and mystic, yet to a certain species of intelligence full of promise. Many prophesied that with her death christian science would rapidly decline and many, Starr included, assert that it has declined. This is probably true of the East, tho it still seems to be gaining in the Northwest, kept alive perhaps by the host of practitioners who derive profit from it and fostered by lax statutes governing health control and by the Western spirit of live and let live. The wave started in the East and will recede last in the West. It is still something of a novelty but, as this element is obscured by time, there is no doubt that it will pass as have other waves resembling it, to reappear in some other guise or under some other name after a few generations have died and, in its original form, it has been forgotten.

JOURNAL WANTED.

A copy of Northwest Medicine, Vol. 111, No. 12, December, 1905, is wanted to complete the bound files in the University library. Anyone possessing this copy will confer a great favor by sending it to our editorial office, 1011 Cobb Bldg.

MEDICAL NOTES

Additional Enlistments. Since our last issue the following names have been received of physicians who have enlisted in the army:

OREGON.

Anderson, H. J., Corvallis.
Biswell, Roger, Haines.
Brill, I. C., Portland.
Craver, R. B., Yamhill.
Fawcett, A. J., Riddle.
James, R. F., Portland.
Joseph, E. C., Corvallis.
Kinney, A. E., Astoria
Kauffman, H. R., Forest Grove.
Love, D. P., Eugene.
Menzies, C. S., Portland.
Schaife, B. F., Eugene.
Sears, C. E., Portland.
Tharp, H. J., Pendleton.
Welsh, O. A., Oregon City.

WASHINGTON.

Argue, H. E., Tacoma.
Brandt, W. H., Auburn.
Cornett, G. W., Yakima.
DeWitt, Jr., C.H., Tacoma
Goetter, Ralph, Colville.
Jones, W. J., Colville.
Jonez, H. D., Tacoma.
Judd, H. S., Tacoma.
Kane, J. P., Tacoma.
Klamke, E., Port Gamble
Montague, E. A., Tacoma.
Newgord, J. G., Yakima.
Penney, W. B., Tacoma.
Reinhardt, W. R., Spokane.
Rhea, E. B., Tacoma
Schroeder, F. H., Tacoma.
Sheafe, E. V., Winlock.
Shryock, H. W., Sumas.
Spaulding, L., Kennewick.

Stockwell, H. K., Monroe, Canadian Army.

OREGON.

Detention Home for Diseased Women. About the middle of this month the new detention home for women will be completed, for which Portland has contracted near Troutdale. It is intended for the treatment of women infected with venereal diseases and will replace the temporary home at Kelly Butte. The home is called "The Cedars" and occupies 35 acres, consisting of three buildings, erected at a cost of $17,500. This will be the finest institution of the kind in the United States.

Free Venereal Clinic. Portland is about to start a free clinic for consultation and treatment of venereal diseases. All diseased persons will be given free consultation and free treatment for those unable to pay. This is said to be the first clinic of its kind in the country. It has a double purpose, the stamping out of venereal diseases as a protection to the men in the army and navy and to aid in eliminating the quack doctor system which is a curse in all large cities.

The University of Oregon Medical School will enter upon an enlarged field of activity next fall, when it will occupy the first unit of the new buildings on Marquam Hill, under construction at a cost of $115,000. The school has a supply of serum for the treatment of infantile paralysis which has proved successful in the treatment of this disease. It is also enlarging its field of activity by the treatment of crippled children who, by virtue of a new law, may be given curative treatment at local hospitals at the expense of the counties from which they come.

Red Cross Medical Corps. The Portland chapter of the Red Cross has organized a medical corps which has enlisted the services of 100 physicians. Their services will be used in case of local disaster or emergency, for the relief of soldiers' dependents and care of returned soldiers.

Fewer Insane Patients. At the Eastern Oregon Hospital the average number of commitments per month has been 16. In March this number was reduced to three. The decrease during recent months is attributed partly to the decrease of alcoholics under the prohibition law and also to the unusual demand for labor, since certain men on their own resources out of employment soon become wards of the state.

Remarkable Change of Sex. The lay press has published the remarkable case of Dr. Allen A. Hart, of Albany, who thru his school days and until a few months ago was known as Lucille Hart. Supposed to be a girl he graduated in medicine as a lady physician. Last summer while in the east medical examination, confirmed by an operation, proved that he was a male instead of a female. Accordingly he assumed male attire and hereafter will practice medicine as a male physician.

Tuberculosis Examinations at Camp Lewis. Dr. Ray W. Matson, who was president of the Tuberculosis Examining Board for the first draft at Camp Lewis, has returned to Portland. The tuberculosis examinations are proceeding under the direction of Dr. Ralph C. Matson, who is Divisional Tuberculosis Specialist and President of the Tuberculosis Examining Board for the second draft.

Dr. Ray W. Matson has been commissioned Major in the Medical Reserve Corps and will be assigned to duty with the ninety-first Division as soon as the examination of the second draft has been completed.

Dr. John G. Abele, assistant health officer of Portland, has resigned on account of being ordered to Ft. Riley, Kas., where he will be in charge of the army contagious hospital. He has been commissioned captain.

Capt. E. J. Labbe, of Portland, has returned home after six months' service with the French army, having been in charge of a hospital in the Swiss Alps.

Dr. M. Strickland, of Oregon City, has been appointed health officer of Clackamas County, succeeding Dr. O. A. Welch who has entered the army.

Dr. James A. Best, Mayor of Pendleton, Lieutenant in the Medical Reserve Corps, has been transferred from Ft. Douglas, Utah, to Camp Fremont, Cal.

WASHINGTON.

War on Venereal Diseases. Last month a state meeting was held in Seattle, attended by more than 75 state, county and city officials, for the discussion of venereal diseases and their suppression. A committee was appointed to take charge of a state wide plan for the eradication of such diseases.

Detention Camp for Seattle. Seattle has been authorized to use the government quarantine station at Port Townsend as a detention camp for treatment of venereal diseases. This station has accommodations for about 700 patients and it is planned to use it for the relief of cities in the neighborhood of Camp Lewis. At the present about 200 men and women are confined in emergency hospitals in Seattle at the monthly cost of nearly $6,000.

Hospital for Venereal Patients. Tacoma is building a new quarantine station for women near the contagious hospital at South Tacoma. It will be patterned after the hospital barracks at Camp Lewis. The building will contain 44 cots and additional units can be built as needed. This will take the place of the temporary quarters now in use at the Municipal Dock.

Spinal Meningitis Suppressed. At the Vancouver cantonment last month an epidemic of cerebrospinal meningitis was checked by vigorous quarantine. Six cases were discovered about the 6th of March. During the next three weeks thousands of men were examined every twenty-four hours and their upper respiratory organs treated with the result that no more cases developed.

Contagious Diseases Decreasing. From all sections of the state have come reports, during the past month, of unprecedented numbers of cases of measles, scarlet fever and mumps. In some localities schools, churches and theatres have been closed. The latest report is of a rapid subsidence of these epidemics and a return to the normal condition.

Good Work for the Kiddies. Dr. John B. Manning, of Seattle, who has worked in Paris during the past year, primarily in behalf of tuberculous children, has effected a splendid work for the benefit of school children of that city. He attributed their weak and emaciated condition to the lack of proper food. By his personal efforts he has established a noon-day meal of American food for more than 35,000 children. This is a real, substantial aid to the Allies.

A New Point of Medical Law. A Tacoma doctor has been serving a term in the penitentiary for malpractice which entailed annulment of his medical license. Being pardoned by the governor and resuming practice, he was prosecuted for practicing without a license. Now Judge Clifford, of Tacoma, returns the doctor to his status quo ante by ruling that his pardon carries with it his rights as a practicing physician.

A Banquet by the Pierce County Medical Society was given at the Tacoma Commercial Club, April 10, in honor of Col. E. J. Northington, of Camp Lewis, and some of the medical officers, as well as members of the society at the camp. Fifty-three were in attendance. At nine o'clock the party repaired to the Pantages Theatre, where a complimentary entertainment was given.

Addition to Hospital. An addition to the Deaconess' Hospital of Spokane will be built at once. It will cost between $150,000 and $200,000, of which a large sum is already collected.

Addition to Base Hospital. The Base Hospital at Camp Lewis is to be enlarged by the construction of 12 more buildings which will supply 48 additional wards, virtually doubling the capacity of the hospital, at a cost of $500,000. Two wards of the new addition are already occupied. When completed the hospital will accommodate 1800 patients.

New Japanese Hospital. The Japanese Hospital Association, of Seattle, will erect a new building at a cost of $35,000. It will be of masonry, 65 by 90 feet, three stories in height. It will be built at Ninth avenue and Weller street.

New Hospital at Vancouver. A new base hospital is to be built at Vancouver barracks for all the Pacific coast. New hospital buildings are now under construction and will be completed soon.

Hospital Burns. Last month a fire destroyed the hospital at Ellensburg which has been maintained by Dr. McClanahan. The loss is placed at about $20,000.

Riverview Hospital, at Raymond, is being enlarged by construction of an addition that will double its capacity.

Ambulances for Hospital Unit. Base Hospital No. 50, which has been assembled at Camp Fremont, Cal., under command of Major J. B. Eagleson, of Seattle, has been provided with two ambulances, one by the Seattle Ladies Musical Club, the other by Nile Temple of that city.

Resigns from Board. Dr. J. J. Tilton, of Spokane, has resigned from the State Board of Medical Examiners. His reason is the limited power of the board. He states "the board outlines work to be carried out only to find their power is so limited it can not act."

Seditious Doctor Interned. Dr. Fritz Reitz, of Tacoma, has been interned at Ft. Lawton for the duration of the war as an alien enemy. He is a subject of Germany, never having been naturalized during eight years residence in this country, and is said to have held the commission of lieutenant in the German army. He was arrested for alleged statements concerning the Lusitania and German victories.

Passing of a Quack Doctor. Frank Lotz, of Vader, who has gained great notoriety within recent years, died last month. Altho not possessing a medical education, he succeeded in obtaining a large and influential following. In spite of several prosecutions he continued to flourish. He claimed to possess a secret remedy, effectual in all kinds of diseases, and even offered it for sale to the United States Government for a million dollars. Thus passes another of the all-cure specialists.

Lieut. George W. Beeler, of Seattle, has been ordered to San Diego to serve as medical officer at the military flying school.

Lieut. C. L. Vanderboget, of Seattle, who helped organize Base Hospital No. 50 and who expected to join that unit, has been ordered to Camp Lewis.

Dr. J. H. Corliss, of Sumner, who retired from active practice several years ago, has accepted the appointment of health officer.

Dr. G. H. Ensing, of Seattle, who has served for two years in the British army, is home on furlough. He has been seriously ill from gassing.

Dr. A. L. Salmon, of Clarksfork, who has served for three years in the Canadian army, is home for a visit. He was twice wounded at the front.

Dr. A. M. Polk, of Conconully, has located at Winthrop, from which town the last doctor joined the army last month.

Dr. A. J. Mitchell, a veteran of the Civil war, is the new physician at the Veteran Colony at Orting.

Dr. A. B. McLean, formerly of Pe Ell, has located at Centralia.

Dr. W. W. Goodrich has moved from Granite Falls to Monroe.

Dr. W. S. Bardwell, formerly of Othello, has located in Spokane.

OBITUARIES.

Capt. R. C. Hill died at Seattle, Wash., April 18, from gastric hemorrhage. He was 43 years of age, a native of Ontario, Canada. In 1910 he settled in Irondale, when the steel works were constructed at that place. After the steel mill was closed he moved to Port Townsend, where he practiced for some time. Later he retired from practice and devoted his time to raising Holstein cattle. At the outbreak of the war he enlisted in the Medical Reserve Corps and was stationed at Ft. Worden for several months. Later he was ordered to San Francisco for special training.

Dr. B. W. McPhee died at Spokane, Wash., April 1, from disease of the heart. He was 57 years of age, born in Lessina, N. Y., but grew to manhood in Illinois. He studied medicine in Cincinnati and later moved to Colorado. In 1887 he located in Colfax and practiced until 1908, when he settled in Spokane.

Dr. W. W. Kimmell died at Lebanon, Ore., April 11 from apoplexy. He was 68 years of age, born of Dutch parentage. He practiced for 16 years at Lebanon, but at the time of his death had retired from practice.

Dr. G. E. Tilley died at Portland, Ore., April 11, following a long illness. He was 49 years of age, born in Olympia, Wash. He resided for a number of years in New York City, but several years ago returned to Portland.

BOOK REVIEWS

Edited by Kenelm Winslow, M. D.

Modern Urology in Original Contributions by American Authors. Edited by Hugh Cabot, M. D. F. A. C. S., Chief of the Genito-Urinary Department of the Massachusetts General Hospital, etc. Vol. I, 744 pp. Illustrated with 368 Engravings and 7 Plates. Vol. II. 708 pp. Illustrated with 264 Engravings and 10 Plates. Price $14. Lea & Febiger, Philadelphia and New York, 1918.

This work is a unique compilation of articles, contributed by thirty-nine urologic surgeons of national reputation, including Cabot, the editor. It begins with a brief historical sketch illustrating the evolution of genitourinary surgery in America and its complete divorce from venereal diseases and syphilis. Urology today may easily be regarded as one of the leading specialties of the entire medical profession, and the reader is impressed by the fact that one of the objects of the volumes is to further elevate this important specialty. The summary of "Contributions of American Surgeons to Urology" mentions, with three exceptions, only those no longer living.

The work is well compiled and contains information of inestimable value both to the general surgeon and the general practitioner. To the former it shows the necessity as well as the possibility of making exact preoperative diagnoses. To the latter, who frequently encounters the more common inflammatory conditions of the urethral tract not dealt with in "Modern Urology," the book will afford interesting and instructive reading but it may possibly be of less practical value. Especially in small communities, where the facilities for carrying out the preoperative and postoperative technic described are meagre and limited, it may act as an incentive to improve those facilities. Yet every surgeon and physician who is engaged in any branch of urologic work, or any man in the profession who may only treat genitourinary cases occasionally, ought to have "Modern Urology" on his book-shelf.

All articles are excellently good, each of its own class, so that one cannot easily select any one special author in reviewing. One can choose at random and be benefited by reading any article in detail. As an illustration of its general high class character and diversity a chapter by Caulk on cystitis, for instance, will have special value for the general practitioner. The general surgeon will find a fund of useful information in Lower's chapter on malformations and diverticulum of the bladder. The question of the diverticulum, especially, is one that is frequently overlooked by the general surgeon, and it may prove to be vitally related to the cause of so many non-successful, postoperative results of prostatic operations. When these factors, therefore, are properly diagnosed in the first place, the operation itself will not be held accountable for so large a percentage of non-recoveries; indeed, it is safe to say the percentage of recoveries will materially increase. PETERKIN.

Military Surgery. By Dunlap Pearce Penhallow, S. B., M. D., Major Medical Reserve Corps, U. S. Army; Formerly Director of Unit, American Red Cross European Relief Expedition, etc. With Introduction by Sir Alfred Keogh, K. C. B., Director-General Army Medical Service. Cloth 555 pp. Drawings by Author, $5.00. Oxford University Press, 35 W 32d St., New York, 1918.

This second edition of Dr. Penhallow's work has been brought out because of the rapid evolution of methods in the treatment of modern war wounds, and ideas and theories require constant readjustment. The technic of various methods of treating infected wounds is treated in a thoro manner and, as many of the conditions in war surgery are not unlike similar conditions in civil surgery, the book is of great interest to the civilian practitioner as well as the military surgeon. As the work which forms the basis for the book was done at an American Base Hospital in England, it is of unusual value to the American practitioner. The whole subject of the late treatment of fractures, wounds of the nerves and blood vessels, and orthopedic conditions generally is exhaustively handled. It is, in fact, the most systematic and admirable treatise upon modern military surgery with which we are acquainted. FORBES.

Text-Book of the Practice of Medicine, by James M. Anders, M. D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine, Medico-Chirurgical College Graduate School, University of Pennsylvania, Thirteenth Edition. Thoroughly Revised with the Assistance of John H. Musser, Jr., M. D., Associate in Medicine, University of Pennsylvania. Octavo of 1259 pages, fully illustrated. Cloth, $6.00 net; Half Morocco, $7.50 net. W. B. Saunders Company, Philadelphia and London, 1917.

The previous edition of this well known book has been closely and thoroly revised in bringing out this, the thirteenth edition. Much new matter has been added and not a few subjects have found new places with a view to meeting the demands of the most modern and approved classification of disease. The present volume gives due attention to the important branch of the therapeutic management of the attendant symptoms of diseases. It is a great help to all to have some guide for the cure and prevention of individual complaints. This standard work, one of the best on the practice of medicine, is too familiar to all of us to warrant a more extended review. HASKELL.

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Elements of Hygiene and Public Health. A Textbook for Students and Practitioners of Medicine. By Charles Porter, M. D., B. Sc., M. R. C. P. (Edin.) of the Middle Temple, Barrister-at-Law. Medical Officer of Health, Metropolitan Burrough of St. Marylebone, etc., 411 pp., with 98 illustrations. Price $4.15. Oxford University Press, American Branch, 25 W. 32nd St., New York, 1917.

This book is intended to impart information to the general practitioner on disease prevention and health preservation. Four chapters are devoted to public health and diseases, in which are discussed such familiar pests as the mosquito, house fly, flea and bed bug and their methods of transmitting disease. The latest views are presented concerning the well known contagious diseases. In the discussion of scarlet fever the author states the desquamated skin, formerly considered so important, is now considered blameless in transmitting the disease. Convalescents suffering from otitis and rhinitis are particularly dangerous as transmitters. Interesting descriptions are presented of food, air, soil, water, ventilation, warming, lighting, each being presented in a separate chapter. Three chapters are devoted to removal and disposal of waste, with many enlightening illustrations. SMITH.

Food for the Sick. A manual for Physician and Patient. By Solomon Strouse, M. D., Associate Attending Physician, The Michael Reese Hospital; Professor of Medicine at the Post-Graduate School, Chicago, and Maude A. Perry, Dietitian at the Michael Reese Hospital, Chicago. 12mo. of 270 pages. Cloth, $1.50 net. W. B. Saunders Company, Philadelphia and London, 1917.

This excellent little manual is one that well deserves a place in anyone's library. The menus are complete and practical. The book is written for the perusal of both physician and patient, and the directions for the diet are very explicit. One great feature is that its menus are adapted for those in humble circumstances. The introductory chapter is devoted to food and its uses, and a table showing the average composition of American food products is included. The following chapters are devoted to food in diseased conditions, a considerable space being devoted to diabetes. We know of no better guide in feeding our patients than this little book. HASKELL.

Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science. A Manual of Practical Psychotherapy, Designed Especially for the Practitioner of Medicine, Surgery and Dentistry. By Henry S. Munro, M. D., Omaha, Nebraska. Fourth Edition, Revised and Enlarged. Pages 480. Price $5.00. C. V. Mosby Co., St. Louis, 1917.

This book is written by a general practitioner and is rather simple in a great many respects. It is hard to agree with the author in many of his lines of reasoning. Particularly is this true when he comes to produce or cure infections by suggestions which react on the forces that lower vitality and invite infection, or upon those which establish immunity. In many other conditions we find it equally hard to agree with him. The book contains many case illustrations which are of interest and the average practitioner or dentist may read this book with considerable benefit, yet there is no doubt that, following the reading of the same, they can not go forth and produce the same results as outlined. NICHOLSON.

A Clinical Manual of Mental Diseases. By Francis X. Dercum, M. D., Ph. D., Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia. Second Edition Revised. Octavo of 497 pages. Cloth, $3.50 net. W. B. Saunders Company, Philadelphia and London, 1917.

The first edition of this book was published in 1913. Since then it has occupied a high position among the works on mental diseases, because the author is a man of high standing, and has included in this work not only the best from the general literature on mental diseases but a great deal from his personal experience which makes the book extremely valuable to any physician. The second edition is some fifty pages larger than the first and has brought the first edition up to date.

NICHOLSON.

Manual of Splints and Appliances for the Medical Department of the United States Army. Report of a Board Convened for the Purpose of Standardizing certain Medical Department Supplies. 208 pp. Oxford University Press, American Branch, 35 W. 32nd St., New York, 1917.

This volume was prepared in accordance with a special order issued August, 1917. The Board of Medical Officers directed to make an investigation reported that the splints and appliances officially adopted by the American army should possess the qualifications of efficiency, correct mechanical principles, simplicity of design, low cost of construction and transportability. These conditions are met in the descriptions of this book. Parts I, II and III contain detailed descriptions of splints and appliances for various parts of the body, recommended for use at field, evacuation and base hospitals. Part IV, which occupies half of the book, contains descriptions and illustrations of each appliance previously described. SMITH.

A Pocket Formulary. By E. Quin Thornton, M. D., Assistant Professor of Materia Medica, Jefferson Medical College, Philadelphia, Eleventh Edition Revised, 292 pp. Price $2.00. Lea & Febiger, Philadelphia and New York, 1918.

As indicated by the title this book is a collection of up-to-date prescriptions for all diseases, arranged alphabetically. The author has collected drugs and preparations official in the pharmacopeias of the several countries, including also the formulae of definite chemistry compounds passed upon by the Council of Pharmacy and Chemistry. The quantities in each prescription are given both in apothecary and metric systems. Since no physician can carry all formulae in his head, a book of this kind is most useful to have continually at his right hand for ready reference. SMITH.

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ORIGINAL CONTRIBUTIONS

SURGERY OF THE PROSTATIC URETHRA AND THE BLADDER NECK.*

By GRANVILLE MC GOWAN, M. D.

LOS ANGELES, CALIF.

Inasmuch as it is as an urologist and a surgeon that I am invited to speak to you, my subject must necessarily be something pertaining to urology and I know of none at present of more interest than the field of the posterior urethra and the bladder neck; not because but little is known about the surgery of this portion of the male anatomy, but because it is not known to many, requires familiarity in the handling of special instruments and an anatomic knowledge which is possessed by few. It seems that the average medical practitioner and the general surgeon, if they think about this branch of surgery at all, either give it up in advance as unattainable, or optimistically believe the work can be muddled thru successfully by the stabbing process.

The most frequent cause for surgical interference with the posterior urethra is retention of urine, following some degree of enlargement of the prostate gland or some deformity, usually inflammatory in origin, of the bladder neck. Aside from the removal of obstruction to the exit of urine there are a number of other conditions which demand interference and which are susceptible to cure if the surgeon possesses the instruments necessary for diagnosis, knows how to use them, and has at his command the instruments required for successful therapeutic applications or operations.

Contrary to the usual belief, glandular orifices and ducts opening upon the anterior and lateral walls are not unusual, and since the advent of optical instruments giving an accurate view of all portions of this field, it is not uncommon to meet with adenoma and fibroma springing from the same source. One of the most frequent causes of unsatisfactory results following operations for the removal of hypertrophied prostates is that of overlooking growths upon the anterior surface of the urethra. We have been taught in the books on anatomy and pathology that glandular enlargements cannot occur anteriorly because there is no prostatic tissue there, which is false. Here, as elsewhere, pathologic conditions arise out of or thru functional changes and degenerations in the anatomic elements. In the prostatic urethra we have to deal with a mucous membrane and the direct group of glands which belong to it; with submucous tissues in which course blood vessels, lymphatics and nerves; with muscle fibres principally reflected from the bladder but partly derived from muscular tissue of the prostate; with numerous ducts which drain the acini and which open principally on the floor of the urethra midway between the two vesical sphincters.

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In the center of the prostatic urethra, on its floor, is a fibromuscular ridge covered with mucous membrane which is known as the verumontanum or colliculus seminalis, and which is perhaps more abundantly supplied with nerves of special sensation than any other portion of the body. This organ, for it is an organ, is usually from 12 to 14 mm. in length, 1 mm. broad and 1 or 2 mm. high; is spindle shaped with the apex forward and spreading out posteriorily into two or more ridges which become continuous inside of the bladder with the interureteral folds. In the center of this mound opens the utricle and upon each side sometimes within it and sometimes in front of it, are the openings of the ejaculatory ducts. Right here is a rich field for pathologic change with or without the agency of infection. As we all know, very few men escape infection of the posterior urethra at some time in their lives. Plus the infection we have the favoring influence of heat and moisture exercised in a narrow mucous cavity that is receiving continuously discharges from the prostatic and submucous glands, thru which the semen passes, and in which sedimentary material from the urine is frequently temporarily retained.

As a result come changes in the mucous membrane: edema, chronic congestions with submucous thickening; ulcerations followed by deformity and contractures; strictures, bands, extending from one side of the urethra to the other; polypi of the first and second grades; papilloma, flat and acuminated; the enlargement, engorgement and ulceration of the colliculus itself; the deposit of gravel within the cribriform opening of the prostatic ducts; acute inflammatory obstruction of the submucous glands, resulting in retention cysts or abscesses, and the chronic changes in these same glands, producing small adenoma, single or multiple, projecting into the lumen of the canal and interfering by pressure with the discharge of the semen or with the passage of urine. The best example of the latter is seen in the glands of Albaran, a group situated directly underneath the mucosa of the neck of the bladder, which, when enlarged, obstruct the vesical meatus as effectually as hypertrophy of the prostatic glands themselves. Chronic inflammation results also in the narrowing, obstruction, and sometimes obliteration of one, or perhaps both, of the ejaculatory ducts. Abscess cavities form beneath the mucous membrane within the utricle, or within the prostatic tissue, rupture into the urethra and when healed leave pockets or diverticuli, in which not infrequently stones form, or are lodged as they pass from the bladder. By chronic inflammation of a low grade the two layers of mucous and submucous tissues, first that of the urethra just outside of the bladder and, second, that of the bladder reflected over the neck to join that of the urethra, become so bound together gradually that, instead of being as two leaves which move readily one upon the other, they become cemented by inflammatory exudate into a stiff curtain, no longer permitting of the rhythmic opening and shutting of the bladder sphincter, but form a rigid dam between the urethra and the bladder creating a bas-fond which never empties, causing the same symptoms, and in as great a degree, as those seen in hypertrophy of the prostate or the glands of Albaran. Individual veins may become varicose. I have seen pediculated adenopapilloma spring from this portion of the urethra and grow into the bladder, where, spread out in great masses like seaweed, they interfere with the passage of urine. Or, more frequently, polypi of urethral origin pass thru into the bladder cavity.

Any of these pathologic changes may be the base of the chronic posterior urethral troubles, for which patients seek vainly assistance and cure at the hands of the general surgeon who, unaware of their existence and without the proper clinical experience, fails to diagnose them and continues to pass steel sounds and wash out the bladder, week after week and year after year without effect, when what is required is the inspection and treatment of ulcers, or the destruction or removal of growths by the electric cautery, fulguration, snare or guillotine. Many a man is operated upon for the removal of an enlarged prostate which he does not possess and never can possess because his prostate is atrophied, but who does have a stiff curtain contracture across the prostatic urethra at the bladder neck which requires for its cure not a prostatectomy, but a punch or cautery operation, which will give a permanent groove or channel once more, restoring the bottom of the bladder and the bottom of the urethra to the same level. Many an old man who has been operated upon for prostatic hypertrophy, either perineally or suprapubically, has an imperfect result, disclosed either as difficulty in expulsion, retention, or a disagreeable dribbling after urination, all by reason of failure of portions of the capsule to tie down in the process of healing, leaving tags or muscle flaps, or acinous masses about the neck of the bladder, or small adenoma projecting into the canal from the compressed prostatic substance always left behind in the so-called capsule, or the formation of bands or adhesions, preventing the proper contraction of the cavity or the proper closing of the bladder sphincter. These things can always be discovered by means of a urethroscope and cystoscope within a few weeks, and can always be destroyed or removed without further cutting operations.

Once in a while, five, six, eight or ten years after an apparently satisfactory operation for hypertrophy of the prostate, it will be noticed that the urinary stream diminishes in power; that increased effort is necessary to expel; hemorrhoids long forgotten commence to plague and there is increased frequency and retention. The searching finger in the rectum discovers only the normal amount of prostatic tissue that one always finds, years after removal of an hypertrophied prostate, and this of normal consistency. The cystoscope shows no tumors encroaching upon the vesical sphincter from within, and no bar; but a water, or closed air distention urethroscope shows a festoon of polypi or papilloma, growing upon the outside of the bladder neck and within the prostatic cavity, and the presence of adenoma or nodules, projecting into the lumen of the canal producing an obstruction that has given rise to these resurrected symptoms of prostatism and which is evidently the result of gradual development of the conditions just reported and which we now take measures to prevent, for during the past five years we have always carefully inspected the bladder neck and the prostatic cavity within sixty days after a prostatectomy in order to discover such defects, if present. During the past ten years we have seen a number of these cases, a few from our own practice, but many more from the great clinics where, having had the admitted best care at the time of the operation, after-inspection and after-care is not deemed necessary. Do these people need to be cut again to get them rid of their symptoms? They do not. These conditions can be removed intraurethrally at successive sittings, from fourteen to twenty-one days apart, by the electric cautery, the fulgurating wire or the d'Arsonval spark with perfect safety and perfect functional results and without confinement to the hospital.

Perhaps a more explicit description of the technic of these diagnostic examinations of the posterior urethra may not be without merit in a paper of this kind. There are many always working toward the goal of the achievement of the best methods. A few discover principles, but their instruments are impractical thru mechanical defects which are usually improved upon by a series of mechanics before they are really valuable. Thus the principle of the near vision cystourethroscope was worked out by Hans Goldschmidt, in Berlin, and improved upon by Wosidlo, but their instruments were expensive, foreign, complicated and far from satisfactory. Following came Leo Burger, and later McCarty of New York working with the Wapplers, perfecting irrigating urethroscopes with which one can really see and do things in the posterior urethra. Then came the Gerringer diagnostic urethroscope which is also an irrigating instrument and with which one can see the entire contour of the prostatic urethra, including the vesical neck itself, the manner in which it closes and opens and all the pathology of the mucous membrane, the walls of the posterior urethra and even the anterior sphincter, as the instrument is withdrawn.

The value of urethral diagnostic instruments, in which air under pressure is the distending agent, must be considered. The principle introduced by Leiter in his cumbersome instrument thirty-five years ago was improved by Hurry Fenwick and later, by Wyndham Powell of London, but they have always remained heavy, clumsy and difficult to manipulate and bear no comparison in efficiency to the American instruments of Gordon or Marks, the first perfectly wonderful for the anterior urethra and the latter marvelously useful where long straight tubes are used for minor operations in the posterior urethra. We also need cystoscopes, and with proper ones we can see everything within the bladder at its neck as plainly as we can see within the cavity of the mouth and pharnyx. No large ungainly cystoscopes are required. With the No. 18 Wappler irrigating cystoscopes of the two types, convex and concave, one can practically get into any bladder, male or female, in a painless manner without the use of a general anesthetic and make a leisurely and accurate examination. One can also use this cystoscope as a urethroscope by keeping water running thru it as the instrument is withdrawn, and get a fairly reasonable idea of the conditions present in the posterior urethra, but not sufficient for a careful surgeon to use as a basis for operative interference. This diagnosis is usually better made by use of the water or closed air dilating instruments.

The work for the removal or correction of the defects we find is more easily done thru the instrument which bears our name, the MacGowan urethroscope, a simplified modification of the cysto-urethroscope of George Luys with a better light taken out of the lumen of the working channel, so that it does not come in contact with secretions or applicators, and an improved evacuating tube with a flat floor, so that any instrument introduced thru it can be placed on the exact spot it is desired to treat and kept there. I use only straight tubes for my urethroscopes. It is a little more difficult to acquire the knack of using them in the posterior urethra, but once it is acquired it pays, for there one views everything that is in the urethral field—the floor, the sides and the roof. When my first tubes were made for my office use one on the Swinbourne pattern was ordered. It is now known as the "Ballenger urethroscope."

Examination. The urethra in its posterior part, the man standing, is almost perpendicular and contains three curves. As it leaves the bladder it presents a concavity towards the rectum in the supramontain portion, and then a convexity forward at the verumontanum, and then again it extends in a long flowing "s" from the verum into the membranous urethra as a concavity upon the posterior wall. To examine the posterior urethra with a straight tube, the subject, being first requested to remove his trousers and drawers, should be placed on his back upon the operating table and his feet supported by stirrups made for the purpose attached to the table, or by a small platform or chair of convenient height. He may lie flat upon his back, or his shoulders may be supported by a hinged flap in the table itself; or he may lie upon a table which has a Trendelenberg attachment, so that the penis and perineum can be brought to the level of the eyes of the operator who sits upon a low stool in front of him, the patient's thighs supported by upright supports so that they are well flexed upon the abdomen.

The external genitals and their immediate neighborhood should be well cleansed and the parts then protected with sterile towels or a small laporotomy sheet. The meatus is then inspected and a tube of suitable size selected. If the meatus is narrow, time should not be wasted by attempting to examine the urethra with a tube which is too small to be efficient, but a meatotomy should be performed, and when doing this the surgeon should see that the split is wide enough to take an instrument No. 28 or No. 30 easily and readily. With regard to this matter of meatotomy. After the meatus has been cut to the desired width, it should be dilated daily for from 14 to 16 days with a meatotomy sound up to No. 30 French, so that it may heal the full width of the caliber of the urethra without the tendency to subsequent contraction which occurs with marked regularity within a few weeks if this precaution is not taken.

In cases not used to manipulation in the posterior urethra, a half hour before the examination an injection of a small quantity of morphine and scopolamine should be given hypodermically, and ten minutes before the bladder should be emptied and five to ten cc. of a 1 per cent. solution of stovaine or alypin nitrate, or a 1 to 4 per cent. solution of nitrate of novocain introduced into the bladder thru a No. 8 or 10 silk catheter by means of a sterile Record or Luer syringe. As the catheter is withdrawn, the prostatic urethra and all of the tube from the bladder to the meatus should be filled with this solution. In very sensitive people, if no hypodermic of morphine has been given, 1 cc. of a 10 per cent. solution of cocaine may be added to the stovaine solution for the prostatic urethra. The meatus should then be pinched transversely between the index finger and thumb and the fluid kept within the urethra for ten minutes.

The urethroscopic tube selected should be examined carefully to see that its stilet or plunger fits accurately and can be removed and replaced readily. The light carrier should be introduced and the current regulated until the desired amount of light is obtained. This is readily arrived at by holding the end of the tube over the palm of the hand, looking down it, and when the irregularities of the palm can be seen with perfect plainness the amount of light is correct for use. The Iceland moss lubricant should then be applied to the tube and to the meatus, and the tube introduced gently into the urethra by a kind of rotary motion, because their is a tendency for it to stick slightly at the meatus. As the patient lies upon the table the direction of the tube as it enters the urethra and passes on into the lower part of the bulb is almost perpendicular with the plane of the body. Just as soon as it enters the posterior portion of the bulb its line of direction must be changed; the subject must be brought a little closer to the edge of the table if he is lying on his back. The tube is now in contact with the outer layer of the triangular ligament. The tendency of nature is to keep this portion of the urethra closed continuously. So soon as it is approached, the ever alert external sphincter gets into action; even in the obtunded or anesthetized urethra we meet with resistance from muscular contraction. To pass from the lower end of the bulb into the membranous urethra, we must change the line of direction of the tube and overcome muscular opposition without injury to the tissues. This is done by maintaining the distal end of the tube stationary against the anterior layer of the triangular ligament and depressing the whole tube gently and steadily until it is nearly parallel with the plane of the body, while at the same time the proximal end is pressed forward gently and firmly against the external sphincter. Soon it will be felt to relax and the tube will slide into the membranous urethra. The end of the tube is then still further depressed and advanced until the eye of the operator is really looking slightly upward when, if the plunger is removed, the mouth of the tube should be directly in front of the verum.

The patient must always be cautioned against struggling, moving or raising his head to see what is going on, or coughing or straining, because the sheath of the instrument is very thin and any unexpected movement or any very rough manipulation by the surgeon may bruise or lacerate the tissues in the deep urethra. The colliculus will be recognized by its characteristic shape. The utricle and the minute openings of the ejaculatory ducts should also be seen. To enter the supramontane portion of the urethra, it is necessary to still further depress the outer end of the instrument and press the tube gently onwards. The verum will be seen to roll backward beneath it. As the bladder is approached one can see quite plainly on the floor, sides and roof of the urethra the openings of the ducts of the mucous glands which discharge into it. When the internal sphincter is reached, if the bladder contains any fluid, this will be announced by the presence first of a drop or two of urine in the tube and then, when the resistance of the sphincter is overcome and the end of the tube enters the bladder, its contents will rush out.

A person learning to use the straight endoscopic tube in this posterior region will always need to exercise great patience and perseverance in acquiring the trick of changing the angle of the instrument at the triangular ligament, and in passing the tube from the posterior portion of the bulb into the membranous urethra. Wounding of the tissues should not occur often and should not be serious. Some trauma is often unavoidable, if the tissues are congested, but in more than thirty years of the use of the urethroscope I have never seen any evil results from slight hemorrhages in these parts, but have often seen good follow relief of congestion. The gush of fluid from the bladder would, without any provision to take care of it, prevent a close examination of the bladder neck with the urethroscope, or the examination of or operative interference with the urethra within a few millimeters of the bladder outlet. With the MacGowan urethroscope, with its Kellogg, modified Geyke, or any other efficient pump attached, one can see the whole of the neck of the bladder, the trigone, the ureteral mouths and the adjacent portions of the bladder wall and make applications of chemicals, use the cautery anywhere in the field and treat the posterior urethra close up to the neck of the bladder without being annoyed by the urine. In the absence of an apparatus for aspirating the urine, the field may be maintained comparatively dry by elevating the hips, either by large cushions placed under them, or using the Trendelenberg position, and having at hand a large number of sterile cotton swabs prepared upon the long wooden applicators so commonly used by urologists.

Preparing these swabs or brushes so that they pad the sticks well and remain firmly in place is a trick that is only learned after some practice. A small quantity of cotton with long even fibres should be selected and pulled out until it is a flat mass about 5 to 6 cm. in length. The stick is then placed upon it so that its end is just a little past the middle of the piece of cotton, and a tiny dab of library paste applied to it, when both should be grasped firmly by the thumb and index finger of the left hand and the right hand used to rotate the stick away from the operator, while at the same time it is pushed between the grasp of the left finger and the thumb. This double rotary motion fastens the cotton securely to the stick and leaves a good pad over its end which should be of ample dimensions, but a little smaller in diameter than the endoscopic tube in use. If they are too small, they will not absorb the urine rapidly enough and, if they are too large, they will push upon the tube in entering, or stick in it upon withdrawal, in either case making trouble and delay and probably causing a wounding of the urethra. If one should become detached within the tube it need not be a cause of worry to the operator, as it can be readily picked up by enmeshing it with a naked wooden applicator twisted gently in the lumen of the tube. If one should become detached within the bladder, it should be carefully searched for and if found, picked up with a small pair of alligator forceps passed down the endoscope; if it should escape entirely, it can be located with a cystoscope and removed with a foreign body extractor or the pump of a lithrotite. These swabs must be assembled in packages, dry sterilized and kept in sterile towels.

For the treatment of surgical troubles in the posterior urethra one needs cautery points. Mine have been made for me by the Electro-Surgical Instrument Co., of Rochester, N. Y. These knives should not be made of platinum wire, but of heavy iridoplatinum drawn in loops or shaped as knives or points. The shafts should be long and small enough to pass down the lumen of a No. 22 F. urethroscopic tube without obstructing the view of the operator. The tendency of the manufacturer is to make the shaft of the instrument too large. The handle should be supplied with an attachment like that of the Koch light carrier, so that it will fit into the ordinary bayonet grip of the Rochester conducting cord and each should be furnished with contact breakers. The current is obtained from a cautery controller. My best cautery points are my own modifications of the cautery knives furnished with Goldschmidt's operating urethroscopes. The burn made by a galvanocautery point is usually quite superficial, and one is more apt to apply it too lightly than too strongly. I have never seen a deformative scar from its use.

A minute curette with a very long shaft is also needed. The handle of this instrument should be pistol shaped and set at almost right angles with the shaft. This is useful in curetting ulcers or dislodging calcareous masses caught in the sieve-like entrance of the prostatic ducts, or for the removal of very fine papillary growths. A pair of scissors that can be used to trim off papilloma or remove portions of an hypertrophied colliculus surely and satisfactorily is something which I have never been able to obtain. I have spent a rather large sum of money in having such instruments made for me by the cleverest of instrument makers, and I have bought various scissors prepared for other operators at various times and recommended by them, but I have never been able to get a pair with which I could cut accurately and cleanly in the urethra thru a urethroscope.

It is sometimes necessary to apply pure nitrate of silver to the posterior urethra, and for this purpose small silver crayon carriers are made. Their place can be filled most satisfactorily by double bead ended probes of pure silver which should be about 20 cm. long and of a diameter about No. 8 French. When one wishes to apply the silver nitrate, the crystals are fused in a granite ware cup and the ends of the probe dipped in the molten mass until they are coated evenly. With a probe thus prepared one can limit the application to the spot which it is desired to treat.

At times an infected utricle or an enlarged and infected prostatic duct requires to be injected. For this purpose one can use a folicular canula made from silver or malleable gold and iridoplatinum after the model of Dr. George Eaton, of San Francisco, which can be attached to an ordinary all glass hypodermic syringe.

For the application of chemical agents to the surface of the prostatic urethra or the trigone we make use of the wooden applicators already described. In using trichloracetic acid or chromic acid, a minute crystal can be dissolved upon the moistened end of one of these sticks and the diseased point touched with it. The roughness of the wood may be previously modified by the wrapping of a strand or two of cotton about it, but one should avoid having any excess of the acid upon the applicator.

One instrument I have found of invaluable use in a few cases where, following the operation of prostatectomy, small remnants of adenomatous tumors or tags of capsules were left in the way, preventing complete closure of the vesical neck, causing leakage, or obstructing the urethra causing retention, is known as Young's punch and consists of a silver sheath having a short elbow with a window or opening in its inferior aspect, where the shaft joins the elbow. The commencement of the elbow is furnished with steel teeth, which serve to catch the projecting soft parts when the instrument is in operation. It is furnished with an obturator and a lighting apparatus of the Otis type. Originally invented by Young for the removal of the small third lobe projections into the bladder, it has found its greatest usefulness with me in the removal of irregularities and obstructions existing after prostatectomies, and the cutting of grooves in cases of hypertrophied interureteral bands, causing irritable retention or contracture of the bladder neck.

In using it is inserted into the urethra until the beak enters the bladder, when the obturator is removed. Any tabs or adenomatous masses which obtrude into the prostatic urethra or bladder neck can be seen thru the sheath. The tube is then withdrawn until its teeth catch upon the part desired to be removed and hold it firmly. The cutting inner tube or knife-like plunger is then inserted in the sheath and pushed home, and all or part of the obstruction is punched out. The piece removed by the instrument is usually caught by the teeth and plunger. The plunger may be withdrawn and cleared or, if the piece does not come away with the plunger, it can be withdrawn thru the tube with a small pair of alligator forceps. This process may be repeated until the channel has been cleared of the obstruction. A punch operation should never be done in the office, as sometimes a disagreeable hemorrhage follows. This is best controlled by the inlaying of a full size silk retention catheter, coated at its bladder end with kephalin, for a day or two, and if necessary irrigation of the bladder with hot normal salt solution to prevent the obstruction of the catheter by clots. When not in use the plunger or punch should be kept dry and polished to protect it, for it is made of very highly tempered steel and the cutting blades are very thin, and if exposed to moisture for any length of time the rust will eat directly thru the blades.

High Frequency Current. Papilloma, polypoid growths, undue enlargement of the colliculus and nodular irregularities, flaps or tags left after operations upon the prostate, particularly upon cancerous prostates, may be removed by the use of the same high frequency currents which give such satisfactory results in dermal and bladder work. The source of the current may be any machine with which x-rays may be produced, plus an Oudin resonator to obtain the current necessary to this method. In my work I have always employed the Wappler apparatus.

Application may be, first, by contact, the electrode being immediately applied to or introduced into the tissues it is desired to destroy. The destructive force is in this instance thermic, the action being similar to that of the galvanocautery, only much more intense and far reaching in its effects upon the surrounding tissue cells. This is really an electrocoagulation. Secondly, the application may be thru a spark acting from a distance. Here the destructive action is entirely different, consisting at the same time of heat and mechanical energy, one or other of the two predominating, according to the character of the spark. If the intensity of the current is too great, the temperature of the spark is very high, predominating over the disruptive force. Its frequently repeated shock rapidly dries the tissues and the resonating spark carbonizes them. This action is expressed in the term fulguration.

If we work in a water medium, using a current of medium intensity, a large portion of which is diffused in the water, a column of gas is generated; that is, the spark becomes cooled before coming in contact with the tissues which it is intended to destroy, and the mechanical disruptive force applied to pathologic cells is the chief agent in the work of their destruction. This is a process entirely different from fulguration, and one which is more useful in the bladder for the rapid dissolution of benign growths than it is in the urethra.

It is difficult to keep these high frequency currents upon the line in the urethra. They easily short or escape from the insulated wire that is used to convey them in their passage thru the endoscope before reaching the spot where it is desired to apply them. To overcome this without adding to the bulk, I use a smaller electrode, No. 5 French, and pass it thru a long 20 cm. tube of baked hard rubber just large enough to carry it. This also acts as a handle for the electrode and a protection for the operator against sparking. Where a No. 28 or 30 urethroscopic tube can be used, I prefer to destroy adenoma or cancer masses by the D'Arsonval spark, carried thru steel wire insulated with silica glass tubing; this can be done very nicely thru a MacGowan urethroscope of this calibre but, if one is obliged to use a smaller tube, the thickness of the tubing obstructs the field of vision too much to do accurate work.

But suppose the conditions are such that they do not admit of removal thru the urethroscope, how then shall we attack them? One can get to this portion of the urethra by cutting into the bladder from above, which you all know I with many others prefer as the method of approach for the removal of an hypertrophied prostate, but this approach is not fitted for delicate work in the posterior urethra.

Having made a careful instrumental diagnosis by the optical instruments and being satisfied of the confronting pathology, then comes the effort for its correction, always when possible by the non-mutilating and rather easily carried out methods which I have proposed; but when this will not do, the prostatic urethra and the prostate must be exposed by dissection thru the perineum. There is but one way to open a perineum for the purpose of conservative surgery upon the posterior urethra and that is the way which Dr. Proust, of Paris, and Dr. Hugh Young, of Baltimore, have so beautifully developed. Illustrations of this may be found in any modern textbook on surgery. The illustrations show just exactly the condition which should be present when the dissection is correctly carried out.

The urethra should be opened on the sound thru the exposed and bare prostatic capsule directly in front of the verum, and silk ligatures carefully placed thru the urethra and well out into the prostatic capsule by means of a small, round pointed needle, one in the right border and one in the left of the incision, and each given to an attentive assistant. The cut should be about an inch long and, if necessary, it should be prolonged posteriorly and not anteriorly, so as to preserve the anterior sphincter of the bladder and its nerve supply as much as possible from injury. There will be but little hemorrhage and, if it should prove sufficient to cloud the field, it can be easily stopped by injecting a few cubic centimeters of a solution of adrenalin chloride, diluted with a normal salt solution one to ten, into the urethral tissues. With an electric light upon the head or with a small urethroscopic lamp introduced into the urethra from the side or from above, a good illumination of the field may be obtained, and anything that requires to be burned out or dissected out can be easily removed.

I may say that in doing these operations, eye knives and eye scissors will be found most useful, and tonsil punches are very convenient. It is not difficult to keep the field dry enough to work until we reach the bladder neck. With this exposure one can see the neck very readily and, if any punch operation is required, it is perfectly easy to do. The extremely difficult task of introducing probes into the ejaculatory ducts may be done easily enough with this exposure, altho I should hesitate to advocate an operation of this sort with this idea only in view.

FRACTURES FROM THE VIEW POINT OF THE GENERAL PRACTITIONER.*

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RIGBY, IDAHO.

In presenting this paper I do not expect to offer anything new, but only to impress upon those in attendance and especially the readers of this article, who for the most part will be general practitioners, a few important things in the diagnosis and treatment of fractures. When a young man enters the profession today and locates in general practice, about the first case he may get, if some woman is not about to have a baby, is a fracture or dislocation. And upon the outcome of this first case his future success or failure in that locality may depend. The patient is soon about, either with his arm in a sling, or a little later on crutches. If a good result is evident and the patient has had kind and comfortable treatment, our new doctor has gotten some valuable and legitimate advertisement. If, on the other hand, the patient has a nice deformity or crippled function, the community may soon hear about it, and the doctor might almost as well fold his tent like the Arabs and as silently steal away.

I have painted the extreme picture here, perhaps, but it does not do any of us much good to have some man limping around from an everted foot following a Pott's, or a little child with a stiff arm following an injury to the region of the elbow joint. There will be times when the nature of the injury will presage for a bad result but I feel these times are fewer than need be, if the right time, attention and skill are used in the diagnosis and treatment.

In my first hundred fractures and dislocations I call to mind less than a half dozen bad results, and my success I attribute to the following features which I desire to impress upon the profession.

First, as to the matter of a diagnosis. This is so important and so often is only partially made, if made at all. Let me urge you to take plenty of time. Here, if anywhere, do not be in a hurry. Compare the two sides, if a limb be fractured, for herein nature herself is kind to you in giving you so valuable a means of comparison. Make several measurements; weigh them carefully. Make observations from several angles; study comparative conditions in general.

Get an exact history of the injury. This is often extremely important, if we bear in mind the age and weight of our patient, what injuries are commonest at certain ages and from certain directions of force. Remember age and conditions influencing epiphyseal separation. Note thoroly the position of the limbs or parts carefully, and the amount of helplessness displayed. Elicit a history of pain, discomfort, etc. Do not let the patient or his friends influence your judgment, but learn all you can from them and keep your eyes and ears open to suggestions. Take nothing for granted. Take time and the necessary effort to make an accurate diagnosis and you will be surprised how seldom you fail. Snap diagnosis is fatal here. A gentle going over with partial findings and a cooing assurance in your voice to allay the patient's and your own fears will bring you remorse in the end. Know absolutely with what you are dealing, if it be at all possible, and it will bring you permanent comfort.

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*Read before the Twenty-fifth Annual Meeting of Idaho State Medical Association, Sandpoint, Ida., June 25-26, 1917.

Do not be afraid of an anesthetic. Properly administered it is safe, and its aid in diagnosis no one can question. Muscles and ligaments relax, the patient is quiet and besides there is much less suffering. Permit me to remind you that with these injuries, as in many other conditions in medicine, the patient calls you first of all for the relief of pain and misery, and does not welcome having his pain exaggerated by the manipulation necessary in establishing a diagnosis of his injury. In small children an anesthetic is often imperative. And now, last but not least, comes the x-ray, both the fluoroscope and a röntgenograph. Where there is the least question of doubt, it is nothing short of criminal to deny the patient the benefit of this valuable instrument of precision. Remember, too, that Tom, Dick and Harry can not always interpret a picture. So, if not somewhat skilled yourself, go to the best röntgenologist in your community.

To illustrate how easily we may be fooled, last summer I saw a girl of five who had fallen from a low fence to the side-walk, receiving an injury to the elbow. Both my former associate, Dr. Palmer, and our assistant, Dr. Cole, agreed with me after what we considered a careful examination that we were plainly dealing with a fracture of the external condyle. Things did not seem to go well nor look just right, however, and in two or three days I had some pictures made and to my chagrin I found a fracture of the shaft very close to the joint, and the elbow sufficiently disturbed in its relations so that a sharp point of the shaft seemed to be the split and turned portion of the condyle. With the new light given me by the x-ray (with this and succeeding pictures) I got fairly good reduction and an excellent functional result, tho not a very good anatomic one.

And just this month I saw a man of 65, large, fleshy, still active and with powerful shoulder and chest musculature, who got mixed up with a horse, a pole fence and the ground. Going over him thoroly as I could, I was unable because of his stoutness to arrive at a conclusion as to whether I was dealing with a dislocation of the shoulder or a fracture near the joint. If a dislocation, reduction was surely indicated. If fracture, I did not want to wrestle it about trying to get a joint luxated when it was already in normal position. A mistake here would be serious, so I had the old man moved twenty miles and a picture showed a subglenoid dislocation. Under ether I had no difficulty in effecting a reduction. Sometimes we will get injuries which will puzzle all of us, in spite of every diagnostic means we can summon, but usually things will be pretty clear if we will go slow and leave no stone unturned.

Now as to treatment. One writer has said that the treatment of fractures consists in putting the broken parts properly together and then keeping them there. With this admonition I fully agree, and it sounds simple and easy, but we have all experienced some little difficulty, I feel sure, in carrying either portion of this program into effect. Two things which will go far to give us a good start, however, are, first, a thoro knowledge, a perfectly clear picture of the normal anatomy; and second, a correct diagnosis of our lesion. With these two things in mind we reduce our fracture, putting the parts in as nearly exact alignment as possible, and keep them there, checking up if necessary with the x-ray. I suggest that we keep ever in mind that our patient is going to nurse his disability for some weeks or months at best and hence we do every thing for his comfort in the meantime. I had the experience in December, 1915, of receiving a right Colle's fracture from the back-firing of a cranky crank of an automobile, and I have distinct remembrance of how comfortable at times I could be made from just a little attention.

The first thing I do is to cleanse the limb well with 50 per cent. alcohol or with soap and water, if the alcohol does not happen to be available.

Then for fractures of the upper arm, forearm, and lower leg, put on well padded light wooden splints, loosely applied. Most fractures are easily held, if properly reduced, and the splints need not be tight. We must bear in mind that some swelling will take place in most every instance, and the tight splints and swelling tissues are not compatible. After the swelling has subsided, say in a week or two, I like a plaster cast, as I believe it is the ideal retentive apparatus. Some men apply a cast at once, but I have always felt this to be a hazardous procedure.

However, whatever be your method of choice with different means of retention, let me urge upon you (for herein is the great secret of success with fractures and dislocations) to inspect the parts very frequently. Adjust the splints, bathe the limb, encourage the circulation, improve your alignment if at all faulty, keep the joint gently exercised, begin *early* passive motion, attend well to the patient's general condition, especially if aged or feeble, and you will discover that your luck which may have been bad with this class of work has suddenly changed for the better. I repeat, we do not see these cases sufficiently often, we do not give them sufficient time. Further, I believe we do not let our patients begin *slight use* of the disabled member soon enough and we allow extensive or severe use *too soon.* This I feel is another important point to keep in mind.

For a fractured femur I do not think a well applied Buck's extension can be improved upon nor equaled. In my hands, I have wanted nothing better. For all fractures of the elbow, except that of the olecranon, I would advise at least a right angle position, and for most of them acute flexion, increasing the flexion twice each week until the end of the third week at least. If good flexion is maintained in this nastiest class of fractures in children, it is astonishing what excellent functional results we will get. And after all function is of the greatest importance. Nice anatomic results, of course, are always to be sought, but function must ever be, in the language of the poet, the consummation devoutly to be wished.

Of course we all have our individual methods and procedures in the various fractures and dislocations, so I shall not go into detail upon them, for upon most of the better methods we are agreed. It is the little things, the details, the attempts of comfort, the taking of time and pains that I would impress upon you. Read and keep before you at all times for comparison and for review, some good book of which there are several. I am familiar with half a dozen of the leading works but personally I swear by Scudder. So clear, so plain, so practical, he has revolutionized the treatment of these cases, and made for the general practitioner the pathway bright as day.

Now as to open fractures or, in the words of our fathers, compound, for I feel we should gradually abandon the terms simple and compound and adopt closed and open as more definite and applicable. We are advised by one authority that in many cases, if the judgment of the surgeon be good, the wound may be filled with iodine and the fracture put up snugly and securely as if the case were closed. While true that in every open case we must bear in mind that infection is always possible, yet the number of suppurations will be surprisingly few, if we will give the wound a wide berth, cease our hitherto early and foolish interference and depend upon that wonderful antiseptic, iodine. Many cases that would otherwise have suppurated and failed to unite will heal by first intention, bone and all. If anywhere in our anatomy nature seems to ask rest and lack of meddlesome interference when she wishes to do some repair work, it is with bone tissue, hence the suggestion to stay out of the wound, whenever feasable, letting in only the iodine tincture. Of course there will be cases reach us which will be smashed pretty well to pieces, and in these we dare not close the wound; our judgment will have to guide us, then, on the merits of the case in hand.

The open treatment of fractures, using various methods of wiring, bone plates, etc., I shall not discuss, for such work is not in the field of the general practitioner, and he had better not attempt it, but rather say, with Hippocrates, "I will leave this to be done by men who are practitioners of this work."

Third West St.

Transposed Metatarsal Bone. W. L. Brown and C. P. Brown, El Paso, Texas (Journal A. M. A., May 11, 1918), publish a later observation on the case of transposed metatarsal bone, reported by them in The Journal of Oct. 21, 1916, p. 1200. A recent roentgenogram shows that the transplanted bone has not kept pace with the other bones of the foot, either in length or circumference, though it has lived and performed its functions. They remark that conclusions have been drawn, from such experiments, too early.

UTERUS BICORNIS DUPLEX.*

By S. F. Wiltsie, M. D., F. A. C. S.
SEATTLE, WASH.

On Nov. 29, 1916, I was consulted by Mrs. D., a married woman, 42 years old, who gave the following history. For the past three years she had severe backache low down in the sacral region; she feels tired all of the time and is unable to do her usual housework; she has a dragging sensation referred to the pelvis and complains of pain radiating to the inner side of the thighs and is very constipated.

Upon inquiring into her previous history I found that she was the mother of five living children and had one miscarriage at the fourth month of pregnancy. Previous to three years ago she had always enjoyed good health except for the ordinary diseases of childhood. Her menstrual period began at the age of twelve, is of the twenty-eight day type, painful as a rule the first day only. Menstruation has always been profuse, soiling many napkins each day and always lasting six or seven days.

She was married when she was twenty years old and after several months of married life she noticed a swelling in the lower abdomen and, not considering pregnancy because menstruation occurred regularly each month, she consulted a physician who advised her that she was pregnant at about the fourth or fifth month and assured her that the menstrual flow often occurred during pregnancy. For the three succeeding months the menstrual periods were regular as before and from then on, for the next two months until the birth of the child, no such periods took place. After nursing the child for six months the menstrual period appeared and was normal for the next three months; then for the succeeding three months no menstruation took place and the patient concluded that she was pregnant and conditions were normal.

Just before the fourth month she was taken suddenly ill during the night with nausea and vomiting and pain of a bearing down character in the lower abdomen and after four hours of uterine contractions a four months fetus was expelled. A physician was called and, on account of the excessive hemorrhage, he performed a currettage. On the fifth day following she was again taken with severe uterine contractions and in a short time she expelled a second fetus with the placenta still attached and, as there was scarcely any hemorrhage following this miscarriage, no physician was called.

The following pregnancy was attended by the regular menstruation until the sixth month, then ceasing altogether, the labor terminating in a high forceps delivery. The fourth, fifth and sixth pregnancies were normal in every respect except that menstruation occurred regularly each month during the entire gestation.

Her family history was negative. Her mother is still living at the age of sixty-four. Her father died several years ago as the result of an accident. She has three sisters and two brothers living and in good health.

Examination. The vagina was normal, there being no laceration of the perineum. The cervix seemed to be larger than it normally should and pointed toward the symphysis; the os was slightly lacerated bilaterally. To the right of the median line and retroverted into the pelvis was what I thought to be a normal-sized uterus and to the left I found a similar mass which I concluded to be either an ovarian cyst or an uterine fibroid with a pedicle. This tumor-like mass was apparently attached to the uterus low down toward the cervix and was more fixed than the uterus on the right side. It was explained to the patient that the only hope for relief was thru a surgical operation.

About one week later she entered the hospital and was operated on the following day. Abdominal section was performed and, after walling off the intestines so the pelvis could be explored, we found two normal sized multiparous uteri, both retroverted and resting on the rectum. Each had a normal ovary, round ligament and tube, arising from the superior angle of either distal side. Both horns were well developed but no connection existed between them, the fundi being widely separated and only fused at about where the internal os should normally be and terminated in one cervix. The opposing surfaces of both horns were slightly flattened and for the absence of a round ligament, tube and ovary, each gave the appearance of a normal multiparous uterus. There was a strong dense band of adhesions beginning over the fundus of the bladder and firmly attached to the cervix just above where the two horns united and extended down onto the rectum. This undoubtedly explains the cause of failure of fusion of the Müllerian ducts during fetal development.

The operative technic was first the resection of both tubes so further pregnancy in either horn would be impossible, then the opposing sides of both uteri were sutured together with chronic catgut and the retroversion corrected by the modified Gilliam method, and the abdomen closed in the usual manner.

Malformations of the uterus give rise to an interesting group of anomalies. It is remembered that the tubes, uterus and vagina are developed from the Müllerian ducts which become fused except at the uppermost part which go to form the fallopian tubes. Complete fusion of these Müllerian ducts may be prevented by a distended allantois and also by adhesions between the rectum and bladder.

The varieties of malformations of the uterus are very numerous, depending on the stage of development at which the fusion of the two parts is arrested. There are two classifications caused by this imperfect fusion. First, the organ may be divided internally by a septum with no external signs of such division and is called uterus septus; second, a group of cases in which the fundus of the two halves are entirely separated but are intimately connected at the cervix, giving rise to the term uterus bicornis. This is to be distinguished from uterus didelphis, in which there is no union and is the most complete form of a double uterus. Usually in uterus bicornis one-half is rudimentary and this is known as uterus unicornis. The existence of these conditions are so well known that the significance is really a clinical one.

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*Read before Annual Meeting of North Pacific Surgical Association, Vancouver, B. C., Dec. 14-15, 1917.

The irregularity of menstruation or the excessive amount of menstrual flow each month may lead one to suspect the presence of this anomaly. The discharge may come from each horn once a month at irregular periods, giving rise to a bimonthly flow or, if occurring at the same time, there is an excessive amount of blood lost, or menstruation may come from one horn one month and the other horn the next. This condition of the uterus explains the reason for the continuation of menstruation during pregnancy.

When both sides of a bicornate uterus are well developed, pregnancy may proceed as it normally should and the woman may give birth to several children without the condition being detected and as the discovery is usually accidental, no doubt many women go thru life with this malformation which is never suspected. Cases are frequently reported where women menstruate regularly during gestation and no doubt in many the cause is explained by this condition of the uterus. In uterus unicornis, which is the most common condition found and where pregnancy takes place in the rudimentary horn, it seldom if ever goes to full term on account of the deficiency in muscular development.

In regard to this condition the following paragraph is taken from Williams' textbook on obstetrics. "Unless there is free communication between the two horns, which is but rarely the case, a pregnancy in this situation is a very serious occurrence, since normal delivery is impossible and it usually terminates in rupture which may lead to the death of the patient from intraperitoneal hemorrhage. This accident usually occurs within the first four months of gestation."

Diagnosis. The clinical symptoms are so vague that the diagnosis of anomalies of the uterus is seldom made except accidentally, tho cases of profuse menstruation at regular periods or having a history of bimonthly flow should lead us to suspect that some uterine deformity is present. In uterus didelphys or uterus septus the diagnosis is suggested by the presence of a vaginal septum or cervix with a double os and a large uterus. If atresia exists in the rudimentary horn of a uterus unicornis, there will be an accumulation of menstrual secretion and the formation of a tumor causing pain and pressure symptoms and the diagnosis is only made by operative procedure.

Treatment. In cases of uterus septus Dr. Rockey devised a bloodless operation for the cure of this condition and reports a number of normal pregnancies following his procedure. The operation was to apply large broad ligament clamps to the septum and, firmly locking the forceps, leave them in place for thirty-six hours, thereby producing a pressure necrosis. The septum soon sloughed out leaving a single uterus and vagina.

In uterus unicornis, where the diagnosis is made, laparotomy should be performed and the rudimentary horn removed, leaving the good side for future pregnancies. If, however, pregnancy has taken place in the rudimentary side, the condition simulates ectopic gestation and when diagnosed should be treated as such. If pregnancy occurs in one horn of a bicornate uterus, the other undergoes hypertrophy and it may fill up the pelvic cavity, causing serious dystocia similar to tumors of other origin. The treatment should be along the line of establishing a permanent atrophy of one horn by removing the corresponding tube and ovary; thereby removing the liability of it again becoming pregnant.

Gonococcus Endocarditis. The rare occurrence and the difficulty of establishing the diagnosis of gonorrheal endocarditis seems to H. A. Benson (Kings Park, N. Y.), Camp Pike, Little Rock, Ark. (Journal A. M. A., May 25, 1918), to warrant the reporting of a fatal case of this disease. The patient had exposed himself, a few days prior to his admission to the hospital, but had not reported for the regulation venereal prophylactic treatment. The symptoms of acute gonorrhea followed the usual course, but after the patient had been up and about for a few days arthritic symptoms made their appearance, and ten days later he had again taken to his bed, the endocardial symptoms appeared—namely: a blowing systolic murmur at the apex of the heart; arrhythmia of the pulse; and later, characteristic variations of the cardiac murmur. For a few days the patient improved slightly under treatment, but became progressively worse and succumbed. At first the remedial measures were directed toward the clearing up of the urethral discharge, later the arthritis was combated by use of polyvalent gonococcic vaccine, and later still on the theory of the non-specificity of proteins triple typhoid was substituted.

THE OPERATIVE INDICATIONS FOR DEFLECTION OF THE NASAL SEPTUM.*

By Otto M. Rott, M. D.
SPOKANE, WASH.

To dismiss the subject of the operative indications of septal deflections by the statement that all deflected septa should be resected would be unfair, unsurgical and commercial, because nearly all, if not all septa have some deflection somewhere, and unless the deflection is causing symptoms that can be logically due to that deflection and that former experience has proven can be relieved by a properly performed operation, it is far better to leave that deflection alone than to run the risk not only of not relieving the symptoms but of adding some which were not previously present.

On the other hand, to take too narrow a view of this question and state that only those septa which produce nasal obstruction should be operated on, would limit the usefulness of this procedure to a small minority, because some of the most brilliant and satisfactory results have been obtained in those cases in which the deflection was not of sufficient degree to produce an appreciable obstruction to nasal respiration, but where it produced by its pressure other less well recognized symptoms which will shortly be considered.

There is, then, a middle ground in this, as in all other questions, and broadly speaking, any septal deflection is an operable one, when its presence produces (1) any appreciable obstruction to nasal respiration, (2) any interference with normal drainage and ventilation of the accessory sinuses of the nose, (3) any congestion in the nasopharynx with secondary involvement of the eustachian tube and middle ear, and (4) any reflex symptoms that can be logically explained by the pressure of the deflected portion.

As success in septal work, as in any surgical procedure, occurs in direct proportion to the care exercised in working out the indications in any given case, providing of course that the work is done in proper fashion, we may well devote a little more time to the study of these cases in order to determine whether or not an operation properly performed is possible of relieving symptoms or conditions presented by our patient. In order to proceed to a discussion of the various indications for septal resection, it would be well to propound and answer the following question: In the presence of what symptoms or conditions, may the deflection be an etiologic factor? Recalling, in any given case before us, these various symptoms and conditions, we have only to deal with the law of probabilities, but of one thing we may be sure. If none of these symptoms or conditions is found in our patient with a deflection of the septum, we may safely advise against the operation.

(1) *Respiratory Symptoms.* These need but passing mention, for you all will agree that, when a deflected septum interferes with normal nasal respiration, that septum should be operated on. Even tho a turbinal hypertrophy may appear at first glance to be the offending structure, if there is an associated deflection of the septum, that deflection should first be removed before any turbinal tissue is sacrificed. Thoro shrinking of the nasal mucosa and careful examination will always uncover the true cause, and in many such cases you will find that the deflected septum, ridge or spur has been the cause of the hypertrophied condition of the turbinate because of the chronic irritation caused not only by its own mechanical action, but also by the retained secretions which its interference with drainage produces; and, when the deflection is removed, the turbinal structures frequently shrink, unless, of course, a chronic hyperplasia has resulted.

(2) *Sinus Symptoms.* By these are meant those symptoms such as headache, vertigo, especially when stooping, and ocular fatigue in spite of properly fitting glasses, which are caused by an interference with the drainage and ventilation of the accessory cavities of the nose. In the production of these symptoms a small scarcely recognizable deflection high up is of more importance than a large well marked deflection or ridge low down. Such a deflection becomes of etiologic significance when it presses the anterior end of the middle turbinal against the lateral wall of the nose, thus blocking the outlet of the frontal sinus, anterior ethmoids and the antrum.

The necessity of removing a deflection when it blocks the drainage from a suppurating sinus is too obvious to require defense, but that a deflection may also be responsible for the nonsuppurative conditions, particularly of the ethmoid, may not be so apparent until attention is directed to the manner in which this occurs. The deflection, by interfering with the drainage, causes a blocking and damming back of the secretions which in turn, because of their stagnation, constantly irritate the delicate mucosa lining the sinus, giving rise to the formation of polypi. Hence the presence of nasal polypi is another reason why a deflected septum should be removed.

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*Read before Spokane County Medical Society, Spokane, Wash., May 9, 1918.

And, finally, when any deflection interferes with the passage of an instrument which is essential for the proper treating of a sinus, such as when a ridge low down interferes with antrum irrigations, or a deflection high up prevents proper treatment of the sphenoid, even tho the deflection no where blocks a sinus outlet, that septum should be removed.

(3) *Nasopharyngeal and Aural Symptoms.* The symptoms and conditions referable to the nasopharynx and ears which are caused by a deflected septum, are postnasal dropping, chronic pharyngitis, eustachian catarrh, tinnitus, deafness of the catarrhal type and chronic infected tonsils and adenoids. The deflected septum is responsible for this great array of conditions by means of its interference with the discharge of nasal secretions anteriorly, which stagnate in the nose, and thus, by its mechanical action and by harboring infection, give rise to irritation and infection of the structures with which it comes in contact. The secretions blocked anteriorly find a ready access into the nasopharynx and thus infect adenoid and tonsillar tissue. The low-grade infection thus produced causes congestion and blocking of the eustachain tube with the production of the attendant symptoms of tinnitus and deafness.

Just what promise of relief we may reasonably hold out to these patients depends to a great degree upon the duration and amount of the trouble. By removing the source of the trouble the fire is put out, so to speak, but the results of the fire are still to be dealt with. Consequently, when advising a septal resection of a deviation in which there is catarrhal deafness, it is the part of wisdom not to promise that the nasal operation will restore the lost hearing power. All that can be promised is that we attempt to stop the progress of the disturbance; in other words, to retain what hearing is still present. That does not mean that the hearing will not improve, because the removal of the nasal obstruction is but the first step in this direction. Other procedures directed to the tube must still be carried out in order to overcome the damage already inflicted.

In this connection might also be mentioned the deflections or ridges which interfere with the passage of the eustachian catheter for purposes of treating the tube and middle ear. These, of course, should be removed.

As to the changes in the nasopharynx, it is but reasonable to assume that once the source of irritation has been removed, they will tend to return to a normal condition, depending on the pathologic change already created.

(4) *Pressure Symptoms.* Concerninig pressure effects of septal deflections, some have already been referred to in the discussion of sinus symptoms, but under this heading there will be discussed those reflex disturbances, produced purely and simply by pressure on nerves without any accompanying blocking of drainage, as was the causative factor in the production of the sinus symptoms.

First of all may be mentioned headache which is caused by the pressure of a high deflection against the middle turbinal. This occurs more frequently than one would suppose, and many a case of headache which has failed to be relieved by appropriate general treatment and properly fitting glasses will be found to present a high deflection, making pressure on the anterior end of the middle turbinate. The turbinate is not the offending structure and should not be sacrificed, even tho it appears congested and uneven. First remove the septal deflection and, while awaiting results, the obstinate headache will have disappeared.

Concerning the hay-fever symptoms, so called, because to all outward appearances the patient has hay-fever, we have had typical cases of this character with sneezing, stuffiness of nose and discharge of a watery nasal secretion, which have been entirely relieved by removing the pressure of a deflected septum. The constant pressure, high up against the anterior end of the middle turbinate, irritates the sensory nerve endings, produces congestion and thus stimulates the glands. This is no fanciful theory. Results have proved the contention. And it is the high deflection that is at fault. In order to give the patient the benefit of all doubt and not to advise a septal operation when he has a true case of hay-fever, as might be suspected if he is seen during the hay-fever season, have him return after the season has passed. Then, if the condition is still present, all reasonable doubt will have been expelled and the operation can be advised with the expectation of obtaining results.

In conclusion, the question of when should a deflected septum be removed may be answered as follows:

(1) When it interferes with normal nasal respiration.

(2) When it blocks the drainage of pus from the sinuses.

(3) When nasal polypi are present.

(4) When it interferes with ventilation of the sinuses, giving rise to vacuum symptoms, as headache, vertigo and ocular fatigue.

(5) When it interferes with proper instrumentation of the sinuses and eustachian tube.

(6) When it produces postnasal dropping and infection of structures in the nasopharynx.

(7) When it gives rise to tubal obstruction, tinnitus and catarrhal deafness.

(8) When by its pressure it gives rise to pain, headache, hay-fever—symptoms such as sneezing, watery discharge and stuffy feeling in the nose.

404 Paulsen Bldg.

HEMOSTASIS IN TONSILLAR SURGERY.*

By E. F. Chase, M. D.
SEATTLE, WASH.

Historically it is interesting to note that Hippocrates advised the evulsion of the faucial tonsils as early as 460 B. C., and that Celsus, in about the year 10 A. D., advised that "Tonsils which remain indurated after inflammation, if covered with a thin membrane, should be loosened by working the finger around them, and then torn out; but if this is not practicable they should be seized with a hook and excised with a scalpel."

The exact status of the faucial tonsil, relative to general medicine and surgery, during the intervening and succeeding centuries is not clear. However, it is a well known fact that Borelli, an Italian surgeon, of Sardinia, in 1861, revived for a time the finger method of *enucleation*. This method was supplanted in a very short time by the more popular and spectacular operation of tonsillotomy.

Tonsillotomy was for years the operation of choice and even as late as a decade ago there were those of our profession who still championed its cause. It would appear that serious hemorrhage following this operation was not common, as Sir Morrel Mackenzie experienced no accidents in several thousand cases. Lennox Brown enjoyed a similar experience, having had only two accidents in a large series, while Caport reports but one serious hemorrhage in two thousand cases. Wright, of Brooklyn, published a table of hemorrhages occurring after tonsillotomy, extending over a period of twenty-five years, which was compiled from the records of the library of the Surgeon General at Washington. This author found that there were thirty-one cases of hemorrhage reported, the greater number of which were controlled by ice, direct pressure or torsion of the bleeding vessel. There were, however, two fatalities and two cases in which the operator deemed it necessary to ligate the common carotid artery.

These reports are in contrast to some of those printed within the past few years when tonsillectomy has been the rule. For example, Murray reports in the *Penn. Med. Jour.*, for Aug., 1915, a series of six hundred cases. Of these, ninety-four bled to the extent that sixty were controlled by "ligature around the two pillars," and the remaining thirty-four required ligation of the artery. Also Crockett, in the *Boston Med. and Surg. Jour.* for March 23, 1911, states that twelve deaths from hemorrhage following tonsillectomy have been reported from in and around Boston within eighteen months. In addition to the twelve cases, he recalls many serious hemorrhages, one of which required ligation of the common carotid artery after a scissors enucleation, and two deaths in as many minutes following a sharp dissection with the scalpel.

It must be borne in mind that a greater number of cases are operated on at present than were formerly by tonsillotomy, when that method was at the zenith of its greatest popularity. In this connection it is of interest to recall that, in the city of Philadelphia alone, some 37,000 recommendations were made by school inspectors during the year 1912, to parents that their children had hypertrophied tonsils and that they should receive immediate attention for the same. During the same year nearly 250,000 similar recommendations were made in New York City, and during the year 1917, in the City of Seattle, 17,357 recommendations relative to tonsils were made to the parents of approximately 35,000 school children.

During the year 1917 eight unpublished fatalities, occurring thruout the United States, from hemorrhage following tonsillectomy, were brought to the attention of the writer. Two of these, one of which occurred in the state of Washington,

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*Read before King Co. Medical Society, Seattle, Wash., Apr. 15, 1918.

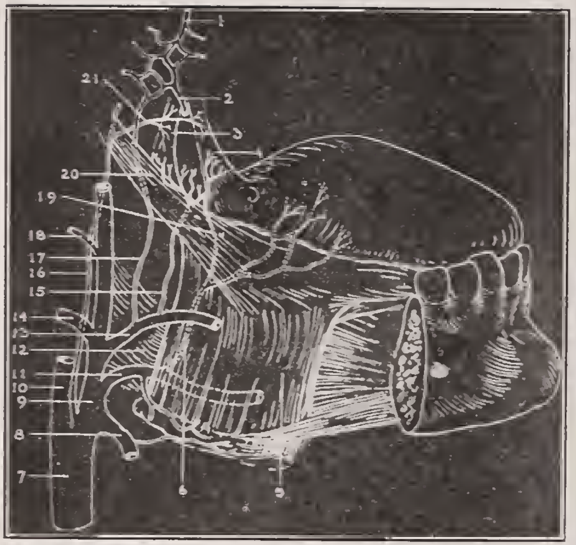

Fig. 1 (after Davis) shows the blood supply to the tonsil and the surrounding structures. 1. Descending palatine, branch of internal maxillary a. 2. True Tonsillar a.—formed by an anastomosis of descending palatine and ascending palatine branches. 3. Palato-pharyngeus m. (Posterior tonsillar pillar.) 4. Palato-glossus m. (Anterior tonsillar pillar). 5. Hyoglossus m. 6. Dorsalis linguae a. 7. Common carotid a. 8. Superior thyroid a. 9 External carotid a. 10. Internal carotid a. 11. Lingual a. 12. Middle constrictor m. 13. Facial a. 14. Occipital a. 15. So-called tonsillar a. 16. Ascending pharyngeal a. 17. Ascending palatine a. 18. Posterior auricular a. 19. Tonsillar branch of dorsalis linguae a. 20. Styloglossus m. 21. Tonsillar branch of ascending pharyngeal a.

were personally detailed by the operators themselves and, altho interesting, they were extremely pathetic.

Formerly it was the custom to explain untoward results by saying that they were "bleeders". That hemophilia does exist no one doubts but, thanks to our present laboratory methods, such cases can be detected and eliminated.

The faucial tonsils are masses of lymphoid tissue covered with mucous membrane, situated on either side of the oropharynx, well within the tonsillar fossae. The tonsillar fossa is a triangular recess, bounded anteriorly by the palatoglossus muscle, posteriorly by the palatopharyngeus muscle and below by the base of the tongue. The floor of this space is formed by the pharyngeal aponeurosis and the superior constrictor muscle on which the tonsil rests and by which it is separated from the pharyngomaxillary space. The latter lies between the lateral wall of the pharynx internally, the internal pterygoid muscle externally, and the prevertebral fascia of the upper cervical vertebrae posteriorly, and contains fat and loose cellular tissue. The pharyngomaxillary space is divided by the styloglossus and stylopharyngeus muscles into an anterior chamber antiguous to the tonsil and a posterior chamber, containing in its hindermost part the internal carotid artery, internal jugular vein and accompanying nerves. External to the pharyngeal aponeurosis is a plexus of veins of varying extent, which when injured are a common and not unusual source of primary and secondary hemorrhage following tonsillectomy. (Figs. 1 and 2).

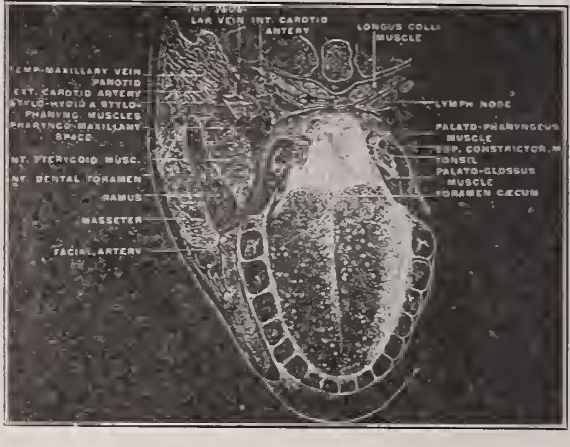

Fig. 2 (after Woolsey)—Transverse section showing anatomic relations of tonsils to important structures of the neck.

Unless an aberrant condition exists, it would

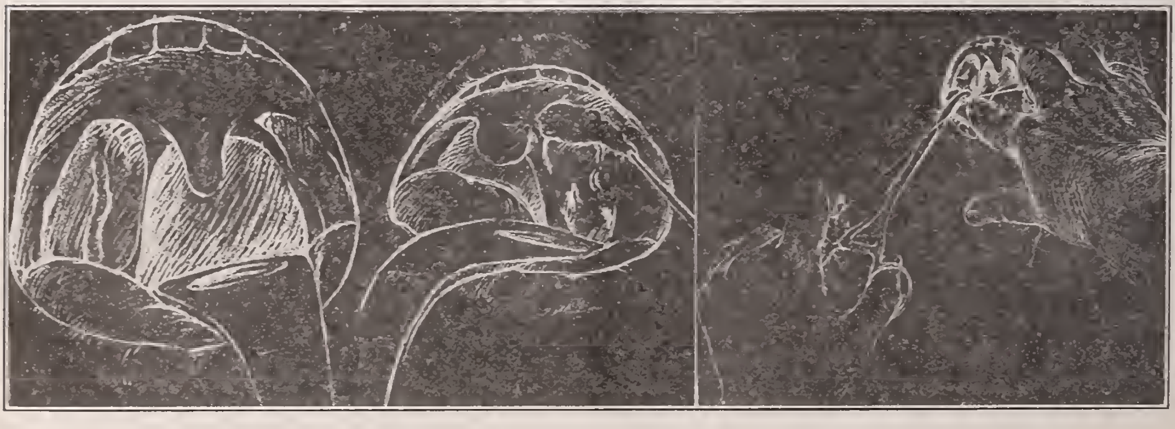

Fig. 3 Fig. 4 Fig. 5

Fig. 3 shows large intact vein traversing right tonsillar fossa. Fig. 4 shows two bleeding points in left fossa, one of which is a freely movable vein which often perplexes the operator because of the shifting of the bleeding point. Fig. 5 shows method of ligating bleeding point.

appear that wounding the internal carotid is out of the question, as in adults it lies three centimeters behind the tonsil. The external carotid lies almost equally as far and is protected by the muscles arising from the styloid process. The ascending pharyngeal artery is nearer the tonsil than the internal carotid but, as it lies in the pharyngomaxillary space, its main trunk is not exposed to injury in careful tonsil surgery, unless it deviates from its usual course.

Anatomists are generally agreed that the faucial tonsil has an abundant blood supply, tho their descriptions vary somewhat in details, due no doubt to the fact that variations are not uncommon. Gray's anatomy gives the blood supply as the dorsalis linguae from the lingual, the ascending palatine and tonsilar from the external maxillary, the ascending pharyngeal from the external carotid artery, the descending palatine branch of the internal maxillary and a small twig from the meningeal. The veins terminate in the tonsillar plexus on the lateral side of the tonsil.

As to variations, they assume many and varied phases. For example, we may find an exceedingly rich venous tonsillar plexus, a well developed dorsalis lingualae or, as has been authentically reported, an aberrant carotid artery. It is not impossible that the ascending pharyngeal might be of large size or misplaced and wounded by a careless or inexperienced operator. Variations, however, need not give the skilled operator any concern, so long as he is able to adhere to a proper technic, since the vessels that actually enter the tonsil are very small and are only capable of causing such hemorrhage as can be readily controlled by surgical means.

The control of hemorrhage during and following a tonsillectomy is identically the same as the control of hemorrhage in other surgical procedures, viz.: grasp the bleeding point or points with a hemostat and ligate. This simple and logical method of controlling tonsillar hemorrhage, which was emphasized by Pollard in 1892, and by others since, is the method par excellence. (Figs. 3, 4, 5.)

Under no circumstances should a case leave the operating room until all hemorrhage has been controlled and the naso- and oropharynx absolutely dry. Should an early secondary hemorrhage supervene, the management is the same as in primary cases, with the exception that it may be necessary to remove a blood clot from the tonsillar fossa before the operator is able to locate and ligate the bleeding point.

Cobb Bldg.

SKIN CHANGES IN LYMPHATIC LEUKEMIA.*

By Warren Brown, M. D.
TACOMA, WASH.

O. G., a retired farmer, age 65, consulted me complaining of breathlessness and a chronic cough, together with extreme debility, faintness, dental abscesses, obstinate constipation and chilliness. With the exception of typhoid fever and malaria and one or two moderate attacks of la grippe, he had been fairly well until the onset of the present malady. Habits most excellent. Never had any venereal disease. No luetic history. Had suffered many privations and had a great deal of family sickness and domestic trouble. He was the father of twelve children, eight of whom died of various cerebrospinal, cardiac and strumous diseases.

Present illness began five years ago. He first noticed an enlargement of the axillary glands; this was followed by a generalized enlargement of the lymphatic glands covering the entire body. Preceding the enlargement he complained of severe angina which gradually disappeared. Weakness and debility accompanied the angina. He also had a severe pyorrhea. Later he developed an intractable eczema that failed to respond to treatment. Four years ago had a protracted otorrhea.

Present examination shows a well built man of average weight and height. All the glands of the body are enlarged—noticeably so in the axilla. Patient looks badly. He is anemic and there is an unhealthy pallor present. Pulse is 78. Systolic pressure 115, diastolic 70. Temperature normal. Nutrition good. Expression despondent. Teeth bad and many are missing—pyorrhea. Tongue slightly coated. Urination normal. Urine is free from sugar but has a thin zone of albumin. Bowels obstinately constipated. Sputa free, thick and whitish. Cough slight but constant and annoying. Breathing is labored and difficult. Emotions rather pronounced, constant depression and melancholy. Spleen is palpable but not big. Patient is extremely weak and becomes easily exhausted upon slight exertion. Liver not enlarged.

The laboratory report of Dr. Stuart Wilson was as follows:

Red blood corpuscles, 2,280,000; white blood corpuscles, 89,600.

Large mononuclear cells 95 per cent. (normal 1 per cent.)

Polynuclear posinophile cells 6 per cent. (normal 65 per cent.)

Polynuclear posinophide cells 6 per cent. (normal 3 per cent.)

Patient, who declined to take the x-ray and benzol treatment, six months later visited Mayo's. He died in the train on the way home.

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*Read before Pierce County Medical Society, Tacoma, Wash., Fbe. 26, 1918.

In passing I present a condensed summary of recent teachings on the subject of lymphatic leukemia, a small part the result of personal observation, the greater part from notes taken at clinical lectures. The remaining information I have gathered from various monographs, out of which I have freely drawn. The subject of skin changes in lymphatic leukemia is of special importance to the pediatrist and dermatologist. It is my opinion that many cases are overlooked entirely because of failure to make a blood count.

Always strip and inspect carefully any patient who is anemic, and obviously and progressively ill. Look for cutaneous and subcutaneous lesions. They are found in both acute and chronic types of leukemia, as well as in the different varieties, lymphatic and myeloid. It is well to remember that a papular ecchymotic skin eruption is one of the first and most constant symptoms in many cases of *acute leukemia.* (Reschad). We also often find, in the *acute* type, purpura, both the petechial and diffuse, occurring in the skin and mucous membranes. Purpura is seldom if ever seen in either of the chronic leukemias. Only in the acute type. Ulcerations and necrosis may be observed in the mouth and nose, less often in the skin.

In *chronic lymphatic leukemia* nodules and tumors are found in the skin and subcutaneous tissues as well as in the mucous membranes. These manifestations are less frequent in the myeloid variety. Nodules may range in size from a lentil up to the size of a hazelnut or an egg. The face and back are common sites. The nodules are movable, flat, pale red and smooth for the most part. Some are scaly. The scalp may contain a walnut-sized tumor. The neck and groins may exhibit nodules, and tumors may appear in the nose, on the palate and pharynx. There may be nodules in the breast. The skin is like wax. Leontiasis of the face is not uncommon.

On the whole we may say that the skin changes are quite largely dominated by tumor formation. Many of these tumor cases are accompanied by eczematous and lichenoid lesions. Later on there may be a diffuse thickening and redness. Doughy or firm nodules may appear. Nodules may ulcerate. The arms may exhibit a shapeless nodular thickening. With the above symptoms it is usually easy to complete the diagnosis with the microscopic picture.

Bear in mind that chronic, painless swellings may occur in the lacrymal, parotid and submaxillary glands. The mammae and sex glands may be affected. The swellings in leukemia are always symmetrical and show an infiltration of the gland substance with cells similar to those seen in the blood. It may be of interest here to state that Warthin declares that leukemia is a common cause of persistent priapism.

Consider well every patient who presents himself with a lichenoid or localized eczematous patch and who at the same time exhibits symptoms of pallor, breathlessness and palpitation. The differential and total blood count will usually make a diagnosis of chronic lymphatic leukemia. (Werther). Always think of leukemia when you have a patient who complains of an extensive, intractable eczema, especially when infiltrated and accompanied by a paroxysmal itching that is difficult to relieve. Suspicion becomes more probable if there is an associated tumor formation.

Note that pallor of the skin and mucous membranes with digestive disturbance may be the first symptoms observed in the *lymphatic form of leukemia.* Falls easily cause ecchymotic areas. Sudden epistaxis and bloody stools are common. The abdomen is protuberant and tympanitic. On rectal examination the mesenteric nodes are found palpable.

It may be well to record here that Bernhardt distinguishes a papillomatous form with minute growths on the erythematous skin, giving it a "shagreen" appearance. Among the skin changes in lymphatic leukemia, the "greenish-gray islands" formed by a grouping of such lesions is striking. Erythrodermia is the usual background of this variety.

Heimann, of New York, declares that there is a leukemia cutis of the dermatitis herpetiformis type. He claims that it is possible to recognize the disease clinically, even without the blood count. The skin lesions are multiple, consisting of papules, vesicles and urticarial wheals. Pruritus is extremely distressing. The extremities are chiefly involved. The glandular swellings resemble those of Hodgkin's disease. The blood picture is that of lymphatic leukemia.

A spongy, bleeding condition of the gums may occur in both forms of leukemia. Tinnitus and deterioration of hearing occurs rather frequently in lymphatic leukemia. It is due to anemia and the exudation that appears in the disease.

The clinical picture of leukemia varies with the acuteness or chronicity of the disease and not with the lymphoid or myeloid origin of the cells. In case of *acute* lymphatic leukemia associated with purpura the spleen is enlarged almost without exception.

Lymphatic leukemia is always acute in children. Virchow claimed that it was always accompanied by thymic overgrowth.

Remember the important points in the diagnosis of the primary anemias and the leukemias, one of which is the impossibility of accurately diagnosing these not uncommon blood diseases without the aid of a microscope.

Chronic lymphatic leukemia is a disease that may last for four of five years; in the early part of its course there are any number of vague symptoms that lead the patient to consult a doctor. But there is only one symptom that is constantly associated with thtis disease thruout its course and that is *glandular enlargement,* which is usually general but may be localized.

To mention a few of the common diseases associated with glandular enlargement: Syphilis always shows a general glandular enlargement, tuberculosis frequently does; the lymphatic glands of many normal people are frequently enlarged; tuberculosis may give rise to localized enlargement of the glands, and Hodgkin's disease is always associated with local glandular enlargement. Of course it is very seldom that any of these diseases are called leukemia, but I believe that chronic lymphatic leukemia is frequently diagnosed as one or another of the diseases mentioned above. This is almost sure to be the case if a microscopic examination is not made, but it is an error that will practically never occur if the microscope is used. (Jamison).

On examining the blood from a case of chronic lymphatic leukemia the stained specimen will at once show that the small lymphocytes (small mononuclear leukocytes) are greatly increased, and the differential count will show them to be about 90 per cent. of the leukocytes in an average case. There is a *decrease in all of the other white blood cells.* Nucleated red cells are never found in the early stages of the disease, and are very rare at any time. (Jamison). Tuberculosis and syphillis both show a lymphocytosis, but never as marked or as constant as in leukemia, while the blood picture of Hodgkin's disease is normal.

In *acute lymphatic leukemia* the microscopic diagnosis is just as easy as it is in the chronic form, in fact, the microscopic picture is just the same as in the chronic form, only the *large lymphocytes are increased instead of the small.*' (Jamison.)

The recent reports of marked improvement and apparent cures from the *use of benzol and the x-ray* enhance very much the value of correct diagnosis of leukemia. So far we have been unable to prove that leukemia can be permanently cured by radiation, but we do know that the x-ray will do more toward prolonging life during a period of comparative comfort than any other therapeutic agent yet employed. (Stengel & Pancoast).

Particular attention should be paid to the care of the skin from the very beginning, as the ultimate result or the duration of life, at least, may be largely dependent on the tolerance of the integument. A severe x-ray dermatitis always demands a cessation of treatment over a portion, or all of the body, and this may be of sufficient duration to shorten the life of the patient a year or more. (Stengel & Pancoast).

Radiation is contraindicated in practically all cases of *acute* leukemia, as it will only hasten death. The same may be said of many chronic cases during acute stages with associated severe toxemias, altho considerable benefit may be derived from the treatment of some of these cases. When we do undertake to treat them, the greatest care is required in handling them. The dosage should be much reduced at the start, and the applications should be limited to the extremities until there are some definite signs of improvement. (Stengel & Pancoast.)

All our studies seem to show that *acute* lymphatic leukemia is an infectious disease, caused by pathogenic germs in individuals belonging to the thymolymphatic type and other forms of constitutional deficiency. Revaccination is often followed by acute lymphatic leukemia in susceptible children. Variola, also, is often accompanied by a pronounced lymphocytosis.

Distinguish between a nodular leukemia and the fatal skin malady known as mycosis fungoides. The lesions in both diseases may resemble eczema or hives. The nodules in the fungoid stage of mycosis fungoides increase in size and large "tomato-like" tumors are formed. These may become enormous in size and consist of blood-red, suppurating granulations. Ulceration eventually occurs in the fungoid neoplasm, but the leukemia nodule rarely ulcerates thru the skin. Sarcomatous nodules may also easily ulcerate.

Always inspect the skull and bones for leukemic nodules of a greenish color. In the skull these tumors may result in blindness or deafness. As pointed out by Ward, all cases with a green color are examples of leukemia. A similar syndrome may arise in suprarenal sarcoma. The green color may be found in the marrow.

It may not be difficult to diagnose a case of lymphatic leukemia when the disease presents a typical picture with general enlargement of the lymph nodes, but in the acute febrile forms the malady may be easily mistaken for typhoid, if the blood is not examined. The hemorrhagic form may be mistaken for scurvy, purpura, or some severe infection with hemorrhage. A differential count will give more definite information than any other single procedure.

In discussing the skin changes in lymphatic leukemia it is well to state that the majority of cases of leukemia run an acute course. An early fatal result is the usual outcome. Some patients die within forty-eight hours; the greatest number die between the second and fourth week and a few live from three to six months. An early termination may be expected when onset is sudden and the fever high. The early onset of hemorrhages is a serious symptom. Purpura may occur, and a hypodermic injection may lead to the formation of a hematoma. Advancing anemia is a very grave omen.

The prognosis in chronic lymphatic leukemia is a little more hopeful. Duration in most cases does not exceed a year, but some cases, like the chronic leukemic whose history I reported, may last for five years. Advancing anemia, cachexia, intercurrent affection or the onset of hemorrhages and acute symptoms may bring about the end. Prognosis in the medullary form is equally bad. Fatal hemorrhage may follow an abortion or the extraction of a tooth.

Influenzal Sinus Disease. H. E. Robertson (Minneapolis), France (Journal A. M. A., May 25, 1918), remarks that a typical attack of influenza usually begins as a rhinitis spreading from the nasal mucosa throughout the respiratory tract, and all its chief symptoms are caused by involvement of the bronchial tree. The severity of the disease, however, is best shown by its consequences. It is difficult to understand, he says, why a healthy young adult should succumb to an infection that often seems to be wholly confined to the tracheobronchial mucosa. Because of this, and also from observations made while in the military service in France, it seems proper to him to suggest that other lesions than those of the respiratory tract, which are rarely looked for or reported, might prove to be very important factors in the often fatal outcome.

NOCTURNAL EMISSIONS.*

"Wet Dreams"

By G. SHEARMAN PETERKIN, M. D., F. A. C. S.
SEATTLE, WASH.

PHYSIOLOGIC FACTS.

(Numbers refer to Diagrammatic Drawing)

Testicles (No. 1). Here is manufactured semen, the fluid that has in it the male seed, spermatozoa (a), which joined with the female seed (ovum) begins the physical process of making a child.

Semen, manufactured in testicles (No. 1), is gathered in a collecting tube, epididymis (No. 2), whence it is carried along the conveying tube, vas deferens (No. 3), to be stored in reservoir, seminal vesicles (No. 4). Here it remains.

Semen is constantly produced; otherwise testicles (No. 1) would dry up or become impaired, as any part of the human body or machine does if not used. The quantity produced varies with the individual and the demand made upon supply. The semen being constantly produced, the reservoir, seminal vesicles (No. 4), must be emptied to make room for the ever-increasing supply. This is accomplished in one of three ways, *without any harmful results to the body:*

1. During the daytime when overfilled the reservoirs, seminal vesicles (No. 4), press upon the nerves in their walls. The nerves telegraph the brain (which controls the emptying center in the spine, No. 5) that room must be made for the increasing supply of semen. Man being awake, that is, conscious and able to control his actions, does one of two things:
    (a) Mentally controls emptying center, as he would an overfilled bladder, lest he soil his clothes.

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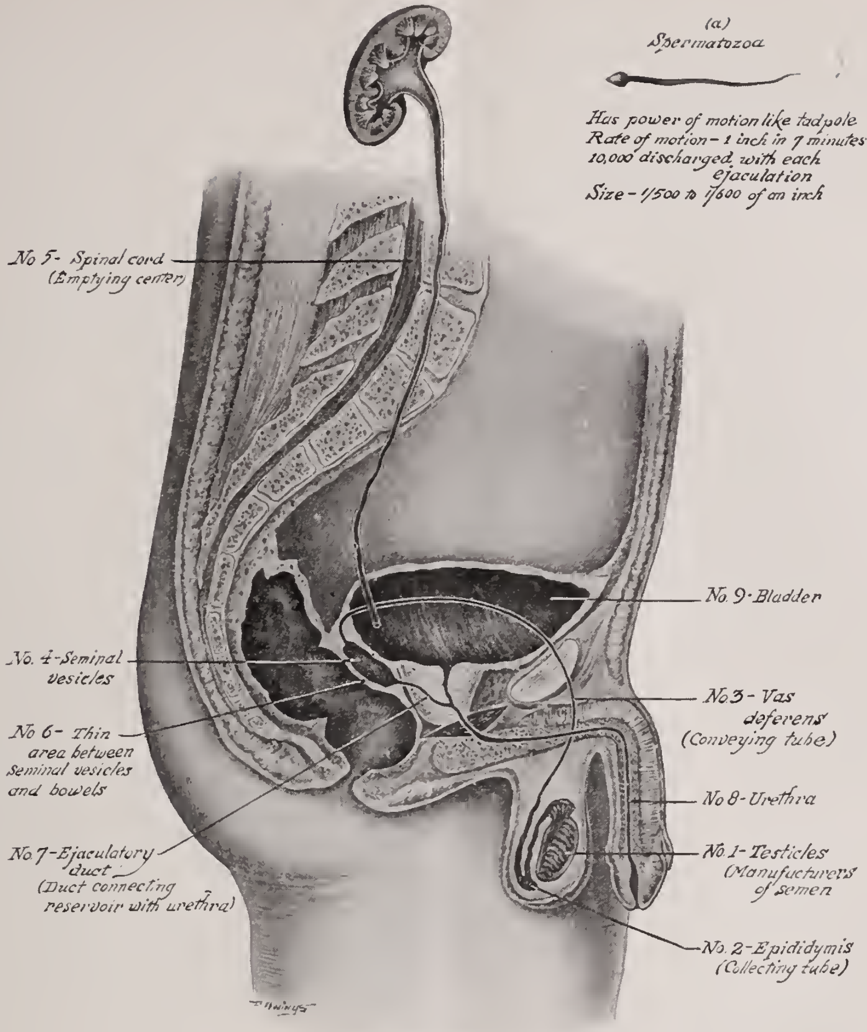
*In compiling this pamphlet, which has been widely distributed for use among physicians, the idea was borne in mind that the purpose of education is to teach a man the reason for himself. A physician, guided by this pamphlet, may explain the physiologic facts given on a purely scientific basis, yet use language so simple and convincing that it is readily comprehended and accepted by the average layman. In reading the pamphlet for himself, a patient can easily assimilate the contents, for he is not merely told to do thus or so, but the reason for doing it is plainly indicated. He may be useful in spreading an educative propaganda of venereal prophylaxis by adopting a theory thus made clear to him, and in his own words convey the idea intelligently to his fellow-men, so that they in turn may know what to do in case of emergency or otherwise.

I have used this pamphlet in my own practice for a number of years. It is to be noted that emphasis is placed on the statement that continency is not only conducive to health but increases the combative powers in man; and therefore the arguments used are of special value to men about to enter the military service. I explain to my younger male patients that the man who voluntarily injures himself so as to disqualify himself for military service is subject to severe penalty, imprisonment, etc., and on the same principle a man brings punishment upon himself who voluntarily contracts an infectious disease, which he has the power within himself to prevent.


(a)
Spermatozoa
Has power of motion like tadpole
Rate of motion – 1 inch in 7 minutes
10,000 discharged with each ejaculation
Size – 1/500 to 1/600 of an inch
No 5- Spinal cord (Emptying center)
No. 9-Bladder
No. 4-Seminal vesicles
No3 - Vas deferens (Conveying tube)
No 6- Thin area between Seminal vesicles and bowels
No 8-Urethra
No 7-Ejaculatory duct (Duct connecting reservoir with urethra)
No. 1- Testicles (Manufacturers of semen
No. 2-Epididymis (Collecting tube)

(b) Seeks relief in sexual intercourse, so that by the discharge of semen the reservoirs will be emptied.

2. At night the reservoirs, seminal vesicles, when overfilled press upon the nerves in their walls; the nerves in turn telegraph the brain that room must be made for the increasing supply of semen. Man being asleep (unconscious, therefore unable to control his acts), nature steps in, knowing the brain will say "Yes," and starts the mechanism of the emptying center in motion—a sexual dream which causes erection, then ejaculation, that is, discharge of semen, so emptying of reservoirs.

As seen in paragraphs 1 and 2, the spark that starts the emptying center is in the brain, and in daytime takes the form of desire, at night a dream.

3. Reservoirs, seminal vesicles (No. 4), being overfilled when a movement of bowels takes place, the bowel contents in passing the thin partition (No. 6) that separates them from seminal vesicles press upon the over-distended vesicles, and the semen which cannot be forced backward, because of the oncoming supply from the testicles (No. 1), is sent thru the ejaculatory duct (No. 7) into the urethra (No. 8), the canal thru which the semen and urine pass into the outer world. When the urine passes from the bladder (No. 9), as it usually does when bowels move, the semen is washed out of the urethra (No. 8), and a man is unaware of the process because the emptying center does not act, and therefore he feels no sensation in the passage of semen. Some times the semen is passed, not during but

at end of urination and defecation (especially if there is constipation and considerable straining); then the semen may be seen at the end of the urethra (No. 8) as a thick white fluid.

This is the third normal way nature accomplishes the emptying of overstored reservoirs.

WHAT DOES THE FOREGOING SHOW?

(a) That semen is constantly manufactured and must be disposed of; if not, from lack of work (functioning) the testicles will begin to atrophy and their activity be impaired. Therefore it is evident that *the loss of the excess of semen is not harmful but necessary.*

(b) Nature has three ways of disposing of semen, as described above, one of them being in the form of "wet dreams." Therefore, *wet dreams are natural, thus not harmful, and it is unnecessary for the good of health to have sexual intercourse to stop them.*

ADDITIONAL INFORMATION CONCERNING WET DREAMS.

1. Average? Four or five times a month; but they may vary over a wide range, according to the sexual power of the individual, and still be normal.
2. Rate? One a week, possibly none for three or four weeks; then one three or four nights in succession or three or four in one night.
3. Frequency? They may occur less regularly—only at long intervals, once in three months or so, especially if the mind is much occupied with study or other mental work, or if labor or exercise is performed out-of-doors. *Absence, therefore, of wet dreams is not a sign of weakness.*
4. Frequency reduced? By moderate diet, plain food, no condiments, drinking no alcohol but plenty of water, using moderate amount of bed covering, voiding urine as soon as desire is felt early in the morning, arising as soon as awake after a night's sleep, and by keeping the mind off sexual subjects in the form of licentious literature, plays, conversation, etc. Frequency is increased by not following these habits of moderation.
5. Self-abuse (masturbation) does not cause wet dreams unless carried to abnormal excess. Most boys practice self-abuse before they reach the age of puberty (the period when semen commences to flow). It is a sign of puberty when wet dreams begin to appear. If a boy has indulged in masturbation he is apt to think wet dreams the result of self-abuse. This is not the case, as the quack would make one believe. No treatment, no medicine will stop them: they are a natural happening in the absence of intercourse.
6. Semen occasionally seen in urine, or appearing at end of urination, is not harmful; nor is it a sign of weakness, nor "loss of manhood," as quacks try to make men think. It is nature's way of getting rid of semen (as explained in paragraph 3.)

CONTINENCY.

(Total Abstinence from Sexual Intercourse)

IS IT DETRIMENTAL TO HEALTH?

Remove from a boy, age 5, both testicles.

Results.

Physical: Becomes stout, little or no hair grows on the face; bones delicate; voice weak, like a woman's.

Mental: His creative power is diminished. In many of his actions he is effeminate. He is not straightforward and courageous, but petty, jealous, and deceitful.

Significance of the Above. The first function of the testicle is to give the strength, mental and physical, that characterizes man and makes men men. Impair this function thru diverting it by self-abuse or sexual intercourse before maturity; what will be the result? Impairment of the power which makes men self-reliant and physically strong, in proportion as it is wasted; in other words, a boy who is continent to maturity (18 to 21 years) will possess, as a rule, stronger mental and physical characteristics than one who is not continent.

Physiologic facts commonly recognized which strengthen the above statements:

Trainers of athletes, track and field, also pugilists, will not permit men in training to have intercourse, as it reduces not only their physical but combative powers.

Again, history shows that Roman and Greek soldiers, as well as gladiators, when in training were, for these reasons, likewise prohibited from intercourse.

In modern times, during wars and long cruises, soldiers and sailors of necessity cannot have sexual intercourse, yet their mental and physical powers are not impaired.

After puberty (See Physiological Facts noted under "Wet Dreams") nature by caring for the semen prevents continency from becoming detrimental either to health or the function of productivity which the testicles assume at puberty.

Comparative physiology:

In animal life one of the strongest of game birds is the wild duck (mallard). It selects its food. Its sexual life is limited to one female. It has sexual intercourse over a short period. Compare the domestic duck with the mallard. The former has little physical endurance, is slow and stupid, feeds on anything, has intercourse at all times and at all seasons and with many females.

Likewise a man who eats heavily, drinks intoxicants, takes little or no exercise, and talks and thinks about sexual subjects will be licentious and have difficulty in controlling his sexual life; if he does control it, he will be discontented, nervously unstrung and unhappy; while the man who really works and does not allow his mind to dwell on sexual subjects, but employs his brain to improve his physical and mental condition and takes sufficient exercise, can easily control his sexual powers without detriment to his health or happiness.

The sexual instinct is more of a mental than a physical phenomenon; therefore, can be controlled by the will in directing the mind in a line of thought other than sexual. The sexual desire diminishes in proportion as the mind is actively employed in other directions. It is also lessened by physical exercise, especially out-of-doors.

SEXUAL POWER IS NOT LOST BY CONTINENCY. CONTINENCY IS NOT DETRIMENTAL TO HEALTH.

Gunshot Injuries of the Lungs.

SUMMARY

1. Perforating gunshot wounds of the thorax and lungs with a closed pneumothorax or without one, should be treated conservatively.

2. Hæmothorax producing alarming symptoms of compression should be aspirated early, removing just enough fluid at first to relieve the symptoms.

3. Hæmothorax running a normal course but showing no or little tendency to absorption, should be aspirated to prevent the formation of a thickened pleura, contraction of the lung, etc.

4. An infected hæmothorax should either be aspirated at first and later have a rib resection, or, if the symptoms are urgent, the rib resection should be done at once.

5. An open pneumothorax with a small external opening should be closed by suture if the wound is clean, otherwise by a firm dressing or a tampon.

6. An open pneumothorax with a large opening should promptly be treated surgically. If only the thoracic wall is injured, the wound edges should be excised, and the lung sutured into this window. In case the lung also has been perforated, this wound should likewise be excised and sutured and this portion of the lung then fastened into the thoracic window.

7. In order to do these operations satisfactorily it is advisable to have a simple positive pressure apparatus at hand.

—[Capt. Carl Eggers, M. R. C., U. S. A. Surg. Gyn. and Obstet., June, 1918.]

Gonococcidal Action of Protein Silver Solution.

SUMMARY

From repeated experiments in vitro, it is found that protargol and nargol are practically equal in effectiveness as gonococcidal agents, while argyrol and silvol are likewise of almost the same strength. The first two being about two times as strong as the last two salts.

A considerable deterioration takes place in each of these silver solutions after exposure to light and age. This is especially marked with argyrol, which loses 75 per cent of its gonococcidal strength with such an exposure for two months; while nargol, protargol, and silvol loses 50 per cent of strength under similar conditions.

Heating the solutions of the above-mentioned silver salts reduces their action as chemical gonococcides, which reduction is most marked in protargol, the therapeutic usefulness of physical heat in gonococcus infection, however, probably more than recompenses the slight gonococcidal reduction of the solutions

Continuous or intermittent exposure of a culture of gonococci to gradually increasing concentration of any single silver solution in vitro produces very apparent increased tolerance in the organisms for the specific silver solution used. This increased tolerance is not general for all protein silver solutions; as any other member of this silver group will act against this drug-fast organism as against any untreated organism. These experimental facts are of considerable clinical value since it is at once apparent that old silver solutions should not be used, also that heating to 120° F. does not reduce the chemical effectiveness of these solutions, however, a silver solution once heated could not be repeatedly heated without reducing its therapeutic worth. Gonococcal infection, which is very resistant to one particular gonococcide, may be so, due to an increasing tolerance of the infecting gonococci for the particular gonococcide used. The proper clinical result may be obtained by changing the gonococcide to one of the same group or different group.

—[Harry Culver, M. D., The Journ. of Lab. and Clin. Med., May, 1918.]

NORTHWEST MEDICINE
The Journal of the State Medical Associations of Oregon, Washington, Idaho and Utah.
Devoted to the Interests of the Medical Profession of the Pacific Northwest.

Editorial Office, 1011-12 Cobb Building, Seattle, Wash.

JUNE, 1918.

EDITORIAL

MURPHY AT THE BAT.

JULY MEETING IN SEATTLE.

The tri-state meeting which is scheduled for Seattle, July 17-19, will present attractive features which will make it well worth while for the physicians of Oregon, Washington and Idaho to attend in as large numbers as possible. We regret that a complete program is not available at this time. The plans provide for two days of papers and discussions, while the third day will be spent at Camp Lewis, where a great abundance of clinical material is available at the Base Hospital. This fact is realized from the statement that a short time ago the hospital contained nearly 2,300 patients and has about half that number under constant treatment at present. One session will be devoted to the discussion of venereal prophylaxis, presented by representatives of the Army and Navy. At the same time these officers will explain the demands of their branch of service upon the medical men of the Northwest. The Surgical Club, of Seattle, will present a series of moving pictures of surgical operations at one of the sessions. Dr. A. H. Logan of Rochester, Minn., will read a paper on chronic ulcerative colitis, and Dr. Albert Strauss, of Chicago, will present the subject of pyloric stenosis; Dr. Finley, of Omaha, will discuss some obstetric or gynecologic subject. It is expected that the meeting will be favored by topics from other visitors, besides the subjects presented by members of the three state associations. In our next issue we will present a complete program with further details concerning the meeting.

ADDITIONAL ENLISTMENTS IMPERATIVE.

Plans of the Government provide for immediate extensive increase in the army and this will entail many additions to the Medical Officers Reserve Corps. It is announced that 5,000 medical enlistments must be obtained before July 1. Regardless of enlistments in the past, each state must provide its quota of additional enlistments for army service. Whatever has been the response already from Oregon, Washington, Idaho and Utah, more men must offer themselves this month. Oregon and Washington have made an especially good showing, the former ranking fourth and the latter eighth among the states in their percentage of enlistments in the Medical Reserve Corps, yet they must all produce further supplies of army men. For example, it is stated that one hundred more doctors are needed from Washington, while fifty is the minimum to satisfy the present demand. At the same time the Surgeon-General of the Navy announces that they must have 2,000 enlistments during this month. These figures prove that every physician must honestly search his own heart and determine as soon as possible if he can make the necessary sacrifice to serve his country with his whole soul and energy.

VOLUNTEER MEDICAL SERVICE CORPS OF THE UNITED STATES.

This organization, established several months ago, is now engaged in active work of obtaining members from the physicians of our country. It is established under the Council of National Defence, and its object is to provide an emergency medical organization to perform such civic and military duties as are not otherwise provided for. Its members will be expected to respond to calls for service from the Surgeon-Generals of the Army and Navy and Public Health Service. The members of the corps must be graduates in medicine, licensed in their respective states, who are able to meet the qualifications established by the Central Governing Board and elected to membership by that board. Members of the corps shall be entitled to wear distinguishing insignia, by which their standing can be recognized. Membership in this corps will be prima facie evidence of loyalty and support of the government in its efforts to win the war. Every physician of patriotic impulses will consider it an honor to be thus designated and it is expected that membership in the corps will be in great demand during the coming weeks. Application blanks for membership can be obtained from the local representatives of the Council of National Defense.

A NOTABLE EVENT IN MEDICAL EDUCATION.

The corner stone of the new building for the University of Oregon Medical School was laid May first on Marquam Hill, Portland, with ceremonies participated in by Governor Withycombe, Dr. K. A. J. Mackenzie, dean; Mr. W. K. Newell, regent; Mr. A. C. Spencer, general attorney, for the Oregon and Washington Railroad and Navigation Company (donor of twenty-one acres to be used as a campus), Dr. Earnest H. Lindley, president of the University of Idaho and Bishop Walter T. Sumner. The first unit is a three story structure measuring 67 by 200 feet, which provides ample accommodations for lecture rooms, many well equipped laboratories and dissecting rooms, library and offices. The plans call for other units to be surrounded by as many hospitals as can be induced to locate upon the campus. The first of these will without doubt be the new county hospital and others will follow rapidly. The Pacific Northwest may well be proud of this achievement which marks an epoch in the progress of medicine on the west coast of the United States. Here are abundance of clinical material, many men well equipped to teach, the states of Oregon, Washington, Idaho, Montana and Utah from which to draw students.

The University of Oregon Medical School is a class A school, having seven full time professors and conforming to the standards of the Council on Medical Education of the A. M. A. Tho handicapped in past years by lack of suitable buildings and until recently by lack of appropriations, it has graduated many men who have become widely known as successful and highly respected physicians and surgeons. Its graduates in various state board examinations have made records which do honor to the University. With a gradually rising standard of entrance requirements the classes have averaged better and better as the years have passed. At present, in addition to the funds for the building, the school receives a biennial appropriation of sixty thousand dollars from the state. This with the dues insures sufficient funds for laboratories, a first-class library which is rapidly accumulating and such other needs as the operation of a first-class school entails. Physicians thruout the Northwest should encourage this medical school, not only in the interests of local pride and patriotism but because it fills a need and is fully capable of doing high-grade work. Encouragement should take the form of aiding it by contributions, with legislators and, not least, by insuring that a larger number of medical students from the Northwest claim it as their Alma Mater.

COMMENCEMENT EXERCISES OF THE UNIVERSITY OF OREGON MEDICAL SCHOOL.

The commencement exercises of this college took place June 7, 1918, at Portland and ushered into the medical world twenty-one physicians and surgeons, of whom nineteen are men and two women. Sixteen are residents of Oregon and five of Washington. A remarkable record has already been made by this class. Seventeen have received commissions in the Navy, including one woman, who will work in bacteriology. One man after an internship in King County Hospital will join the University of Washington Base Hospital, of which he is already a member. One was deferred because of physical disability. The remaining man has earned his way thru school, has several children and will care for the practice of an older brother who has joined the colors. The remaining woman will seek hospital service for a year and thereafter expects to enlist.

Graduates of all schools this year have completed their courses under certain disadvantages, for hospital services have been much disrupted by war exigences. Notwithstanding this, the members of the class of 1918 have done excellent work and bid fair to achieve their full share of successes. Nor will their patriotism in serving the cause of freedom be entirely to their disadvantage. Some of them are destined to see many parts of the world and many sick and injured people, and to derive great benefit from these experiences. All of them will profit from the discipline which is an inevitable part of military and naval duties. That everyone of them will do his duty goes without saying. Everyone of them is already a potential hero. All Hail to the New Brethren!

MEDICAL JOURNALS FOR CAMP LEWIS LIBRARY.

The librarian of the Camp Library, at Camp Lewis, is endeavoring to collect medical literature for the benefit both of the medical officers and the enlisted men who have had a certain amount of medical training and study. He makes the request that those of our readers who are willing to do so will send to the camp library their weekly and monthly medical journals as soon as they have read them. Many physicians are accustomed to destroy their journals after reading. Here is an opportunity to do a patriotic service and make a double use of the journals by sending them to the Camp Library at Camp Lewis, Wash.

OVERSEAS ADDRESSES.

When a man is away from home associations and friends, it is always a comfort to keep in touch with familiar surroundings to as great an extent as possible. This can be accomplished to some extent in behalf of our brother doctors who are in France, if we can send them their regular copies of Northwest Medicine. Our mailing department can do this every month, if the correct addresses of the members of the different associations we represent are sent to our editor's office. It is necessary to have addresses including division of service and the regiment to which each man belongs. If friends of different members in the service would take the time to send us such addresses, we will assure them that the journal will be sent to each of these men regularly. We trust these items of information may be speedily received.

MEDICAL NOTES

Additional Enlistments. Since our last issue the following names have been received of physicians who have enlisted in army and navy service, which we have not hitherto published.

OREGON.

Borlaugh, A. W., Ashland
Botkin, A. W., Portland
Cahill, R. W., Portland
Coffen, T. H., Portland
Hamilton, N. B., Portland
Johnson, W. T., Corvallis
Pearce, L. M., Baker
Pollard, W. H., Springfield
Prince, G. E., Falls City
Shoot, H. E., Portland
Snider, C. N., Portland
Story, L., Portland
Tiedemann, A. W., Baker
Underwood, H. L., La Grande
Wheeler, R. H., Eugene
Wooden, J. L., Clatskanie
Zimmerman, E. L., Eugene

U. S. NAVY.

Smith, W. E., Portland
Spencer, W. O., Portland

WASHINGTON.

Brand, W. W., Rosalia
Buckner, H. T., Seattle
Burke, R. T., North Bend
Davidson, C. E., Seattle
DeWitt, C. H., Tacoma
Grove, C. E., Spokane
Hewitt, H. H., Seattle
Hunter, C. D., Tacoma
Lacey, M. J., Auburn
Monroe, D. D., Chewelah
Osterman, A. J., Mt. Vernon
Phillips, G. W., Everett
Pirot, B., Ferndale
Slater, H. H., Deer Creek
West, D. L., Riverside

BRITISH FORCES.

Ireland, G. O., Tacoma

IDAHO.

Alexander, D. L., Twin Falls
Aspray, Joseph, Moscow
Barrows, F. L., Moscow
Coughlin, J. F., Twin Falls
Falk, Ralph, Boise
Hopper, Simon, Cambridge
Kacklen, Soda Springs
Logan, V. G., Rockland
Louis, J. D., St. Anthony
Macrae, R. D., St. Mary's
Miller, J. F., Inkom
Page, O. E., Sandpoint
Platt, O. D., St. Mary's
Tukey, W. H., Boise
White, E. L., Lewiston

OREGON.

Reconstruction Aids. The United States Surgeon-General has designated Portland for training reconstruction aids during the summer. These aids are women employed in military hospitals who assist returned soldiers in recovering the use of their bodies and thus preparing them for reeducation and self support. This work will be carried on in connection with Reed College. It is expected that 200 students will be enrolled.

Reconstruction Hospital. It is proposed that a Federal Hospital for soldiers be constructed in Portland on Marquam hill adjacent to the new building of the medical school. Such institutions have already been built in England, France and Canada. The same will be made in various parts of our country as the war goes on.

Abundance of Sphagnum Moss. Dr. J. W. Hotson, superintendent for the Northwest division of the Red Cross and Professor Sweetser, of the University of Oregon, have found large quantities of sphagnum moss in Lane County in the region of Suislaw river. It is obtained in large masses in strands a foot or more long.

Wounded in France. Dr. E. V. Morrow, of Portland, was last month reported injured in France, where he was employed serving with the English medical forces.

Child Welfare Work. Dr. Mae Cardwell has been appointed by Julia Lathrop, of the Children's Bureau at Washington, to direct the health conferences to be held in Gary, Ind. She has gone east to accept this appointment.

An Excess of One Doctor. Coos County has determined the number of physicians each city shall have in accordance with its population. It has been discovered that Marshfield has one in excess to what has been considered sufficient. Therefore this number is to be decreased by one who will be available for service.

Epidemic of Measles. Last month there were reported at one time about 3500 cases of measles in Portland. As a result the school attendance was severely effected.

Southern Oregon Medical Association. The annual meeting of this society was held at Medford, May 14. The following officers were elected for the ensuing year: President, E. A. Wood, of Ashland; Vice-president, F. G. Thayer; Secretary-treasurer, A. C. Seeley, of Roseburg; delegate to the State Association, W. H. Flannigan, of Grants Pass.

Conference of Health Officers. Dr. A. C. Seeley, of Roseburg, president of the State Board of Health, is attending a conference of State and Territorial Health Officers at Washington. Many vital subjects are to be discussed pertaining to the war, child life, training of crippled soldiers.

WASHINGTON.

Navy Hospital Units. Two navy hospital units are being organized in Seattle, one under the direction of Dr. M. J. Sturgis who will be its surgeon with the rank of lieutenant commander. The other will be under direction of Dr. J. S. McBride, who will be its physician with the rank of lieutenant commander. Each unit will consist of a surgeon, physician, ophthalmologist, bacteriologist and radiologist, beside fifteen nurses. Orderlies will be provided by the navy. These units will be subject to service on call either ashore or afloat, at home or abroad.

Prevention of Accidents in Industries. A permanent organization is to be formed for the prevention of accidents and to insure safe working conditions. Plans for this organization will be worked out by a committee of employers and employees, together with doctors and social workers interested in the movement.

Base Hospital to Be Enlarged. Base Hospital No. 50, organized by Maj. J. B. Eagleson, of Seattle, which is now at Camp Fremont, is to be enlarged from a 500 to 1000 bed hospital. This will necessitate 50 more men in the enlisted corps, with an increase of doctors and nurses.

Hospital Burns. The hospital at Kittitas, owned by Dr. Winkle, was completely destroyed by fire May 7, from cause unknown. The loss is estimated at $8,000.

New Hospital to Be Constructed. Plans have been made for the construction of a hospital at Centralia on a ten acre tract near the city. It will be 157x200 feet and one story brick veneer. Accommodation will be provided for sivty patients.

Hospital Addition. Construction work is being conducted on an addition to the Tacoma General Hospital. This will cost about $4,000.

Free from Typhoid. Last month it was rumored that an epidemic of typhoid had appeared in Spokane, supposed to be instigated by German agents. Health Officer Anderson, however, stated that there was not a case of the disease in the city and that only two had existed during the previous month.

Scarlet Fever Closes School. Owing to the prevalence of scarlet fever last month, the schools at Okanogan were closed for the stamping out of the epidemic. The same order was issued regarding Sunday schools, churches and moving picture theatres.

Smallpox Scare. Owing to the many cases of smallpox in Tyler the County Commissioners declared a quarantine and closed schools and public meetings until the disease should be stamped out.

Doctorless Town. It is reported that Wrangel, Alaska, has been without a doctor for some time. It is said that not even a horse doctor is available in case of sickness. Here is an opportunity for some ambitious doctor.

Antituberculosis Officers. Last month the antituberculosis league of King County elected Dr. B. J. Lloyd, of Seattle, president and Dr. J. E. Crichton, of Seattle, vice-president.

Army Promotions. Capt. E. A. Rice, of Tacoma, and Capt. F. J. Cullen, of Napavine, have been promoted to the rank of major. Lieut. J. M. Henderson, of Seattle, has been promoted to rank of captain.

Navy Promotions. Drs. W. D. Merritt, of Seattle, and I. W. Parsons, of Everett, have been advanced from assistant surgeon to past assistant surgeon to past assistant surgeon with rank of lieutenant, sen or grade.

Fifty Per Cent. of the Doctors Gone to War. Thru enrollment in army service Tacoma has lost about half of its doctors. At present these are reduced to about one hundred in the city so that none of them should lack for practice.

New Health Officer. Dr. D. H. Ransom, who has practiced in Clarkston for fifteen years, has moved to Spokane, where he has been appointed assistant health officer.

New Health Officer. Dr. P. R. Brenton, of Tacoma, has been appointed chief medical inspector in the city health department.

Appointed Health Chairman. Dr. Maybelle Park, of Seattle, was last month appointed health chairman of the General Federation of Women's clubs in convention at Hot Springs, Ark.

For Service in France. Dr. Mabel Seagrave, of Seattle, left last month for New York to join the unit of the New York Women's Infirmary for over seas service. She expects soon to leave for France.

Medical Examiner for the British Army. Dr. Ronald Strath, of Seattle, who has for some time been recruiting medical examiner for the Canadian and British recruits in Seattle, has been transferred to New York City where he will be engaged in similar work.

Dr. J. W. Mowell, of Olympia, Chief Medical Adviser of the Industrial Insurance Commission, has been seriously ill for some time with pneumonia. He has been moved to the Base Hospital at Camp Lewis where he is being treated for empyema.

Dr. J. E. Strain, who has recently practiced in Tekoa, has moved to Malden.

Dr. J. R. Harvey, of Chelan, has moved to Sumner.

Dr. J. E. Failes, who practiced recently in Seattle, has located at Pateros.

Dr. W. E. Gossell, who formerly practiced in Tonasket, has located in Twisp.

Dr. A. L. Goff, who has practiced for some time at Yakima, has located for practice in Tacoma.

OBITUARIES.

Dr. C. E. Laws, of Tacoma, Wash., died in Chicago April 21 after two weeks illness of meningitis. He was 39 years old and was born in Cincinnati. After graduating from the University of Ohio, in 1904, he enlisted in the United States Army and served in the Philippines. He came to Tacoma five years ago after living in Dupont for three years. Shortly after the United States entered the war he organized a medical unit and later received a lieutenant's commission in the medical corps. He contracted his fatal disease while examining recruits at Fort Dodge, Iowa.

Dr. C. J. Simonson, of La Crosse, Wash., died May 6 at Newman Grove, Neb., from tuberculosis. He was 43 years of age and practiced in Lacrosse for 14 years, having graduated in medicine seven years previously. He was prominent in the community and had a large circle of friends.

Dr. J. H. Page, of Baker, Ore., died April 30 from disease of the heart. He was born in Orleans County, N. Y., 1897. Becoming a surgeon during the Civil War he served in the army from 1875 to 1881. He practiced in Emporia, Kas., for 28 years. After retiring from active practice he lived for a time in Indiana, going to Baker about a year ago.

Dr. David Rosser died at Yakima, Wash., April 22, age 73, from cerebral hemorrhage. He was born in Ohio and settled in Yakima in 1888. He was the first president of the county medical society and was coroner for four years. He was very active in masonry and a prominent citizen.

Dr. J. H. McDonald died in Puyallup, Wash., April 29. He formerly lived in Missouri and at one time was a member of legislature. Before living in Puyallup he practiced for several years in Dayton.

REPORTS OF SOCIETY MEETINGS

WASHINGTON.

PIERCE COUNTY MEDICAL SOCIETY.

Pres., S. W. Mowers, M. D.; Sec., R. A. Gove, M. D.

The regular meeting of the Pierce County Medical Society was held in the Library rooms, 8:15 p. m., May 14, 1918, with President S. W. Mowers in the chair. Thirty-two members were present. Minutes of last meeting were approved. C. E. Richards, of Burnett, was elected to membership.

The president called attention to the necessity of additional contributions for the Military Fund. Captain Janes called attention to the necessity of additional hospital facilities for the city of Tacoma. He introduced the following resolution, which was unanimously carried:

"**Whereas,** the population of Tacoma is increasing at a rapid rate, due to industrial activities and Army concentration, both bringing thousands of people to our city, and

Whereas, it is a known fact that hospital needs increase proportionately faster than increase in population, due to the fact of a constantly larger percentage of people live in rooming houses and hotels who are compelled to go to hospitals when sick, and

Whereas, hospital facilities in Tacoma have already been entirely inadequate during the past winter, which fact, together with the continued growth of industries and the establishment of new ones, justifies the confident expectation that with only the present hospital accommodations another winter will not only find the hospitals overcrowded but there will be actual suffering thru the inability of the hospitals to provide adequately for injured and sick industrial employees, as well as for guests of our city and ourselves, a condition which would be discouraging to the industrial development, poor advertising for Tacoma, and a misfortune to those deprived of proper care when sick or injured, and

Whereas, one of Tacoma's hospitals has under roof a large unfinished wing which, if completed and furnished, would make available enough additional beds to meet the immediate needs of Tacoma, and

Whereas, the authorities of St. Joseph's Hospital have been consulted and signified their approval of a project to raise a sum of money to be utilized entirely for the purpose of finishing and furnishing the uncompleted wing of their hospital, be it, therefore

Resolved, that Pierce County Medical Society, at a regular meeting, places itself on record as realizing keenly the lack of adequate hospital capacity; as anticipating a greater need than ever the coming fall; and heartily recommending that a well planned effort be made to raise funds for the purpose of completing, ready for use, the unfinished wing of St. Joseph's Hospital at an expense of approximately $100,000, and be it farther

Resolved, that a committee of three be appointed to submit these resolutions to the Rotary Club with the request that they take charge of this project, and with the assurance that cooperation in every way possible will be given by the Pierce County Medical Society to the end that prompt action may result and the threatened crisis this coming winter in the hospital situation may be averted."

In accordance with the resolution, the president appointed Drs. Janes, Warren Brown and J. B. McNerthney as a hospital committee.

PAPERS.

Plastic Facial Restorations in War Surgery, Major A. E. Rockey, of Camp Lewis, gave a most interesting and instructive lecture on this subject, illustrated by about a hundred lantern slides. Major Rockey first threw on the screen some pictures showing the anatomy of the head and face, as typical illustrations of various wounds and their subsequent appearance after plastic operations were given.

Gonorrhea in the Female. Dr. J. L. Courtright read this most interesting paper. He stated that 80 per cent. of women infected with gonorrhea are never completely cured. Chronic urethritis or cervicitis attracts but little attention. The majority of women having chronic gonorrhea have both vulvovaginal glands involved. The urethra is the permanent home of the gonococcus in the female. Gonorrhea is one of the most difficult diseases to cure in women and requires constant and earnest work of patient and physician.

The paper was discussed by Drs. J. R. Brown, Warren Brown and Quevli.

Dr. E. O. Houda described a method for localization of foreign bodies without the use of the x-ray plate.

The regular meeting of the society was held May 28, at 8:15 p. m., called to order by the vice-president, Dr. Mary F. Perkins. Twenty-seven members were present. The minutes of the meeting of May 14 were read and approved. The secretary read the application of Dr. I. H. Robb for membership which was referred to the Board of Trustees.

PAPERS.

Splenomegaly. Dr. E. O. Houda presented this very interesting case. Male, about 60 years of age, well nourished, little loss of weight, complains of shortness of breath. On physical examination there are present some lymphatic glands in the left supraclavicular space. There are no enlarged veins about chest. There is a left chest dulness due to effusion. Heart shows no serious valvular lesion, but some roughness in both valves. No edema of extremities. Abdomen is large, with a large tumor-mass filling almost the entire left half extending below crest of ilium; considerable ascitic fluid, but not enough to cause parietal tension. Liver dulness extends below costal arch, the absolute dulness being slightly increased. The displacement of liver is due to a compensatory emphysema of right lung. Urine is negative.

X-ray screen examination and plate shows a double increase in aortic shadow without pulsation. This mediastinal shadow extends above clavicle on right side with a nodule above the arch and to left side of sternum. Heart shadow fuses with effusion, which extends to auricular level. Otherwise the lungs are clear.

Blood picture as follows: Hemoglobin, 88 per cent.; reds, 4,300,000; neutrophiles, 56 per cent.; large lymphocytes, 7 per cent.; small lymphocytes, 23 per cent.; eosiniphiles, 4 per cent.; basophiles, 1 per cent.; transitional, 5 per cent.; total whites, 10,200.

With an enormously enlarged spleen associated with a glandular involvement, one thinks of splenomedullary leukemia. With the above blood picture which was verified, all types of anemia may be excluded from consideration, with the possible exception of splenic anemia or Banti's disease. If this is a splenic anemia or Banti the cardinal sign is lacking—a relative increase in the small lymphocytes. In Banti's a glandular involvement is not the rule. Leucopenia is the rule and here we have a leucocytosis. A palludal history, forty years ago in this case, would tend to make a Banti diagnosis, in spite of the negative signs. The possibility of a combination of diseases must not be overlooked. The entire absence of a urobilogen reaction in the urine excludes a serious cirrhosis of the liver which is or must be present in a typical Banti.

With the above findings I would make a tentative diagnosis of Hodgkin's disease, pending a section of one of the supraclavicular glands, to rule out the possibility of a lymphosarcoma. Until a splenic puncture is consented to, the malarial question cannot be settled. He shall be given massive x-ray for the mediastinal and splenic enlargements. If it is a straight Hodgkin's disease there will be a prompt improvement.

Epidemic Cerebrospinal Meningitis. Captain C. S. Wilson, of Camp Lewis, gave an instructive talk on this subject, reporting about forty cases treated at Camp Lewis, illustrated by lantern slides. This study of this disease is one of the most important contributions to our knowledge of this terrible malady that has been made. The paper was discussed by Drs. Griggs, T. R. Steagall, J. R. Brown, Engles and Judd.

Joint Disease and Focal Infection. By Captain Smitkey. Medical men at Camp Lewis have a much better control of their patients than is possible in private practice. There has never been a satisfactory classification of arthritis. Rosenow says inflammatory arthritis is due to focal infection, bacterial organisms existing in the teeth or tonsils generally being the cause. Billings demonstrated by experimental methods that injections of streptococcus into the system produced arthritis in the joints. At the base hospital they have many acute and chronic cases. Acute cases respond readily to enormous doses of alkalis and salicylates. They are sent to the throat specialists, the dentists and others to determine the focal cause of the malady; blood counts are made and urine examined; the prostate gland is investigated, Wassermans taken, heart, lungs, and gastrointestinal. Results obtained after removing tonsils and pus pockets at roots of decayed or filled teeth are remarkable. The doctor presented x-ray plates, showing the terrific conditions found at roots of some teeth under beautiful gold fillings.

BOOK REVIEWS

Edited by Kenelm Winslow, M. D.

A Manual of Clinical Diagnosis. By Charles E. Simon, B. A., M. D., Professor of Clinical Pathology and Physiological Chemistry in the University of Maryland Medical School, etc. Ninth Edition, Enlarged and Thoroughly Revised. 851 pp. 207 Engravings and 28 Plates. Price, $6. Lea & Febiger, Philadelphia and New York, 1918.

This book contains a feature which places it in advance of any work of like character. After giving laboratory methods of examination in a very excellent manner, it then dedicates a number of pages to describing the distinctive characteristics of the various recognized diseases and, (this is the distinctive and favorable feature) **in the first few lines** gives the **essentially** diagnostic findings of the disease, without confusion with anomalous cases, differential diagnosis and the like. It needs only to be observed to be appreciated. For example, having a case of suspected poliomyelitis, the physician need only to turn to the page descriptive of this condition and in the first few lines are clearly outlined the diagnostic features of both spinal fluid and blood. Illustrations, text and treatment are of the highest order. West.

Lessons From the Enemy. Medical War Manual No. V. How Germany Cares for Her War Disabled. By John R. McDill, M. D., Medical Reserve Corps, United States Army. 262 pp. Illustrated. Price $1.00. Lea & Febiger, Philadelphia and New York, 1918.

In the summer of 1916 the author was commissioned to visit Germany for a study of this nation's methods of rehabilitating their wounded soldiers. The Germans claim that thru their systems they have been enabled to return 95 per cent. of their wounded to either military duty or to self-supporting civic or industrial usefulness. Every wounded man in Germany even with arms and legs gone is reeducated to resume his old trade or is trained to some other income-producing occupation. This little volume contains chapters, among other subjects, on medical and surgical aspects of the war, reeducation of war disabled, orthopedic hospital schools and workshops, artificial limbs, social health insurance and hospital systems in peace. The text is amplified by many illustrations on appliances and procedures. In the chapter on artificial limbs many illustrations demonstrate the lines of useful work in which one may engage after the loss of one or both arms. It is clearly shown that no soldier can be so seriously disabled that he can not engage in some useful occupation, provided he is suitably trained and educated. Smith.

Laboratory Methods of the United States Army. Medical War Manual No. 6. Compiled by the Division of Infectious Diseases and Laboratories. Office of the Surgeon-General of the War Department, Washington, D. C. 256 pp. Illustrated. Price $1.50. Lea & Febiger, New York and Philadelphia, 1918.

This manual is not a textbook but a collection of formulae and technical methods employed by the medical corps in stationary and field laboratories. It describes methods of collecting specimens for all kinds of laboratory examinations. This is followed by a description of methods for making all the necessary solutions and stains for laboratory work. Routine methods for examining specimens and tissues are described. Methods are given for determining all ingredients of urine, blood, feces, etc. Bacteriologic methods for making media and technic for handling material from patients are described. There is also a section on the sanitary examination of water and sewage. Much technical knowledge is obtainable from this little volume.

Smith.

Talks on Obstetrics. By Rae Thornton La Vake, M. D., Instructor in Obstetrics and Gynecology, University of Minnesota, etc. 157 pp. Price, $1. C. V. Mosby Co., St. Louis, 1917.

This is a series of talks given to senior medical students on the important complications of pregnancy and delivery. The author sums up his chapters with sound advice and emphasizes the important rules for guidance in each complication. He is a strong advocate of rectal examinations in obstetrics and points out the fact that sepsis kills almost as many parturient women as do all other causes put together. The chapters on toxemias, hemorrhage and cesarean section are especially good. The author has not intended to present all of the important features of obstetrics in textbook form but rather wishes to emphasize the important things which one frequently encounters in practice. It is well worth reading and is written in an entertaining and clear style. Quilliam.

Postgraduate Medicine. Prevention and Treatment of Disease. By Augustus Caille, M. D., F. A. C. P., Emeritus Professor of Medicine and Consultant to Department of Pediatrics, New York Postgraduate Medical School and Hospital, etc. Octavo of 1023 pages. Profusely Illustrated. D. Appleton and Company, New York and London, 1918.

The author gives an excellent summary of our present methods in the prevention and treatment of disease. The book is divided into fourteen sections, including sections on bedside and office technic, minor ailments and emergencies of general practice. There is no attempt at elaborate and complicated discussions but a concise setting forth of treatment. The work is of great interest and importance to the man engaged in general practice, and is entitled to careful reading. Blackford.

A Treatise on Clinical Medicine. By William Hanna Thomson, M. D., LL.D., formerly Professor of Practice of Medicine and of Diseases of the Nervous System in the New York University Medical College; Ex-President of the New York Academy of Medicine, etc. Second Edition Revised. Octavo volume of 678 pages. Cloth, $5.50 net. W. B. Saunders Company, Philadelphia and London, 1918.

This work adds another to the already numerous works on clinical medicine. The introduction is de-

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voted to catching cold, significance of common but important symptoms and to remedies. Then the infections are taken up and the other diseases follow the usual classification. It is to be regretted that in the chapter devoted to diseases of the circulatory apparatus no attention has been paid to the new cardiac physiology and that the old classification and ideas of heart disease have been followed. The same holds true of the whole work, many of the advances in medicine having been omitted or only very briefly mentioned.

HASKELL.

Materia Medica, Pharmacology, Therapeutics and Prescription Writing. For Students and Practitioners. By Walter A. Bastedo, Ph. G., M. D., Assistant Professor of Clinical Medicine Columbia University. Second Edition, Reset. Octavo of 654 pages. Illustrated. Cloth, $4.00 net. W. B. Saunders Company, Philadelphia and London, 1918.

The book is largely an adaption of lectures delivered by the author at Columbia University. It treats carefully and concisely of drugs in general, and contains full discussion of our present knowledge of the more important ones. The author deprecates polypharmacy and irrational therapeutics, and urges the thoro understanding and use of a few drugs. The chapter on digitalis is particularly good. The work is essentially a textbook, but makes an excellent reference book for the physician's library. BLACKFORD.

Typhoid Fever. Considered as a Problem of Scientific Medicine. By Frederick P. Gay, Professor of Pathology in the University of California. Octavo of 286 pages. Cloth, $2.50 net. The MacMillan Company, New York, 1918.

The author gives us a treatise which he states is an "attempted exposition of the problem of typhoid fever." The work is essentially a valuable summary of the history of typhoid and the recent research done in vaccine prophylaxis and treatment. It is interesting to review the marked changes in the dietetic treatment which have come about in the last few years. The author makes no elaborate exposition of treatment, tho he gives an excellent chapter on this subject. The Bibliographical Index is of great value to those interested in the subject.

BLACKFORD.

Principles of Hygiene. For Students, Physicians, and Health Officers. By D. H. Bergey, M. D., Assistant Professor of Hygiene and Bacteriology, University of Pennsylvania. Sixth Edition thoroughly revised. Octavo of 543 pages, illustrated. Cloth, $3.50 net. W. B. Saunders Company, Philadelphia and London, 1918.

This excellent work presents in a concise form "the general principle upon which the health officer and the physician work in their respective capacities in dealing with conditions which are detrimental to health or which tend to improve health." It is to be regretted that more space should not have been devoted to military hygiene at this time, when we are all so really interested in that subject. We commend the work for giving us clearly and in a readable form the fundamentals which should be impressed upon us all. HASKELL.

The Surgical Clinics of Chicago. Vol. II, No. 1 (Feb., 1918) Octavo of 226 pages, 73 illustrations. No. 2 (April, 1918). Octavo of 208 pages, 79 illustrations. Published Bi-Monthly. Price per year: Paper. $10; Cloth, $14. W. B. Saunders Company, Philadelphia and London, 1918.

These two volumes contain the usual amount of valuable information on a great variety of surgical conditions, describing clinics held by the best known surgeons in Chicago. A very instructive article by Mix and Andrews discusses the subject of duodenal ulcer, in which Mix presents his concise and inimitable diagnostic signs for the differential diagnosis between duodenal and gastric ulcer and diseases of the gall bladder. The technic of gastroenterostomy is clearly demonstrated by Andrews. Ochsner states his position in an emphatic manner on the much discussed cholecystotomy versus cholecystectomy. He lays down an important rule in surgery—never to remove anything unnecessarily. The removal of the gallbladder is not always a harmless step, as is proven by dozens of cases coming for after treatment, whose condition is much worse than before the removal of the gallbladder. He states the furor for gallbladder removal is following the course of the one-time removal of the ovaries, suspension of the uterus, removal of healthy appendices and suspension of the kidney. Within four or five years everyone will be getting cases with lamentable after results of gallbladder removal. His treatment of many cases, where it is so common to remove the bladder these days, is to tampon the gallbladder lightly with gauze and suture it to the peritoneum and transversalis fascia, removing the gauze in a week or less. SMITH.

Progressive Medicine. Vol. XXI, Number 1. Edited by Hobart Amory Hare, M. D., March, 1918. $6.00 per annum. Lea & Febiger, Philadelphia and New York.

Among the most instructive chapters in this volume is that on surgery of the chest which shows how readily this part of the body is now attacked for surgical procedures, when but a short time ago this was considered forbidden ground. Under war surgery is discussed the method of operating for penetrating wounds by entering the lung tissue without fatal results. "It is not the open chest that kills but the flapping of the heart and mediastinum." The distressing condition, bronchiectasis, is now treated surgically. Quoting from Robinson, "There is but one curative treatment of true bronchiectasis—excision of the diseased lung tissue." The number of cases suitable for this treatment, however, is limited, being only about one in nine. The technic of the operation is described, showing that the lung is boldly entered with removal of the diseased portion. Other equally important conditions of disease are described.

SMITH.

NORTHWEST MEDICINE

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ORIGINAL CONTRIBUTIONS

THE BASE HOSPITAL, CAMP LEWIS, WASH.

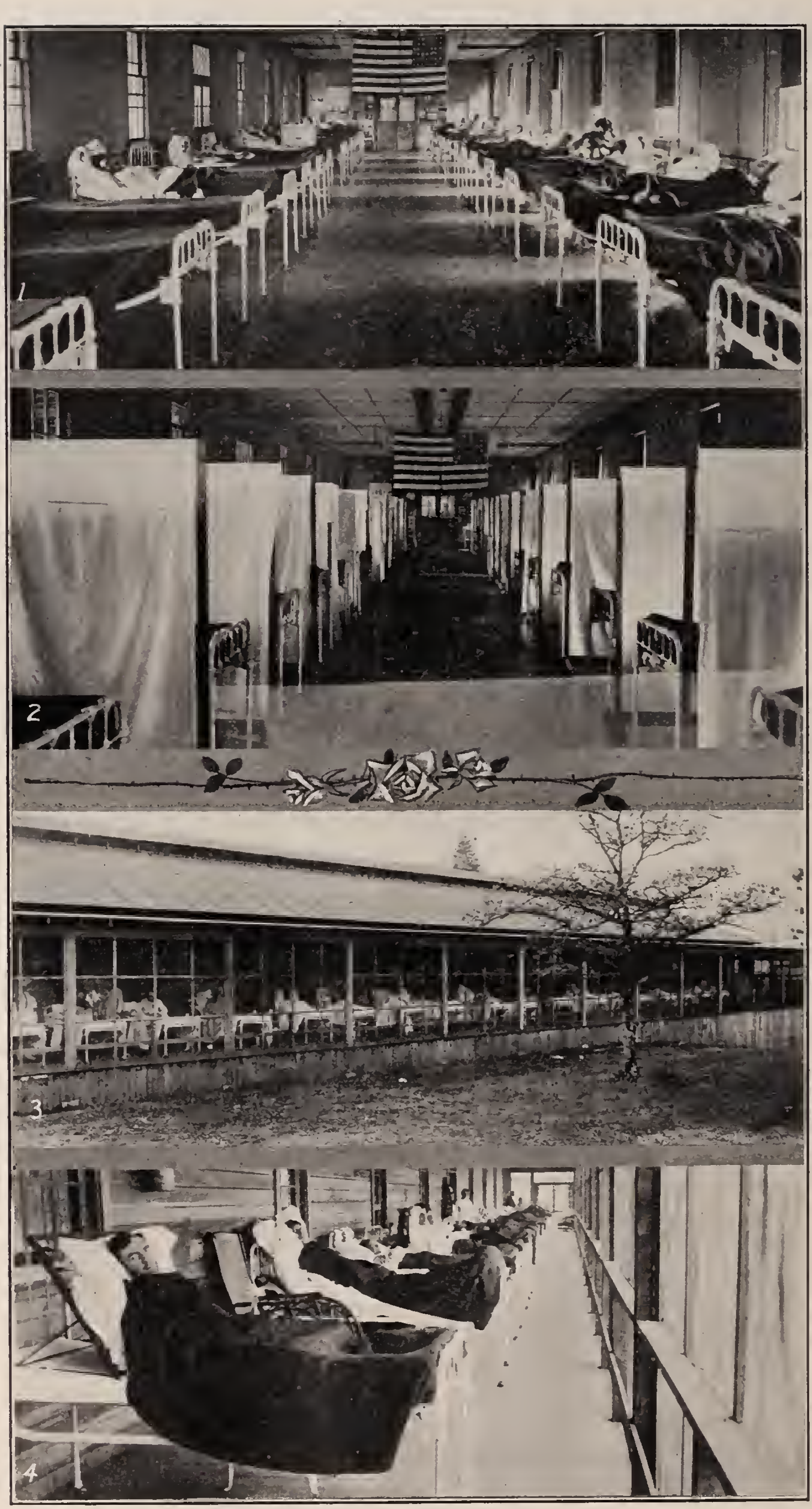
By HORACE G. WHITACRE, MAJOR, M. R. C.
CAMP LEWIS, WASH.

The Base Hospital, Camp Lewis, is the camp hospital for this cantonment and is located on a slightly elevated bench northwest of and adjacent to the main camp. Lieut. Col. Eugene G. Northington, M. C., then Captain Northington, and acting as Camp Surgeon, was assigned to duty as Commanding Officer of the Base Hospital on Aug. 10, 1917, and immediately began to organize the department. Construction was begun soon after this date, wards were first being opened for patients on Sept. 10, and all wards completed about Oct. 15.

During August and the first ten days of September all sick soldiers and many emergency conditions among civilian employees, employed in construction, were treated in the hospital tents of Provisional Field Hospital B, from Portland, except major operations which were performed at the Tacoma General Hospital. This experience of caring for the sick in tents and with field equipment only was both interesting and instructive to the Reserve Medical Officer, but was by no means unpleasant or difficult for patients or physician because of the delightful weather conditions.

The plan of distribution of hospital buildings is in seven parallel rows with an isolation group of three buildings, a neuro-psychiatric ward, two large warehouses and a heating plant in the rear. All wards are practically identical in capacity and arrangement, and accommodate forty patients comfortably. The screened porches form an important annex to each ward, however, and can be used for most patients for the greater part of the year, thus increasing ward capacity to sixty beds. Each ward is heated by steam and ventilated by ample ridge pole ventilators. The service end of the ward includes (a) diet kitchen provided with ice box, sink, steam table and kitchen cabinet; (b) office; (c) utility sink room; (b) lavatory provided with two toilets, one urinal, two wash stands, one shower bath and one tub bath; (e) a small two-bed room for very sick or dying patients. Thirty-seven wards are of one story and twelve, recently added, are of two story construction. The total available beds in the hospital are 2151.

The water supply is identical with the general camp supply and comes from a strong spring at the head of Sequalichew Lake. This spring supplies 3,000,000 gallons per day, winter and summer; the water is persistently germ-free and requires no prophylactic treatment. The sewer connections are with the camp sewer system and this is entirely adequate. The hospital garbage is handled by camp concession, all garbage being



BASE HOSPITAL, CAMP LEWIS

1. Surgical Ward; 2. Medical Ward, showing cubicles; 3. Open Air Surgical Ward; 4. Open Air Medical Ward.

hauled to a central incinerator where it is sorted. Food stuffs are carted away for hogs, paper is baled, tin cans are crushed and baled and other useful aticles are salvaged. The useless refuse is burned.

The hospital is heated by low pressure steam from one central heating plant, equipped with eight boilers. The heating is quite satisfactory. The wards and all buildings of the hospital are lighted by electricity from the camp system.

Bed patients and those who cannot walk to mess are fed in the wards, the food being carted to the wards by steamed carts and served from a stationary steam table in the diet kitchen. All ambulatory patients walk to the central mess which can seat one thousand. A very wide variety of food is provided for patients in the general diet and a special diet kitchen, supplying from three to seven hundred special diets each day to those patients whose condition does not permit their eating the regular diet. Patients are uniformily satisfied with their diet and any complaint as to quality or quantity is very rare indeed. Any complaint is very promptly looked into and shortcomings corrected. In addition to the central mess for patients, another mess for the six hundred Medical Department Enlisted Men is separate and one for the two hundred nurses and one for the ninety Medical Officers. The laundry of the hospital is taken care of by the army post laundry.

The work of caring for patients is carried on by ninety Medical Officers, two hundred nurses and six hundred hospital corps enlisted men.

The Commanding Officer of the Hospital is Lieut. Colonel Eugene G. Northington, Medical Corps; Assistant Commanding Officer, Herbert M. Greene, M. R. C.; Adjutant, James F. Hamner, Captain S. C.; Assistant Adjutant, Rawlins Cadwallader, Captain M. R. C.; Registrar, Robert M. Jones, Captain M. R. C.; Chief of Surgical Service, Horace J. Whitacre, Major M. R. C.; Assistant Chief of Surgical Service, Paul Rockey, Major M. R. C.; Chief of Medical Service, Dudley Fulton, Major M. R. C.; Assistant Chief of Medical Service, C. Stuart Wilson, Major M. R. C.; Chief of Laboratory Service, Kenneth Staniford, Captain M. R. C.

The chiefs of subsections under Surgical Service are: W. H. Roberts, Major M. R. C., eye, ear, nose and throat; John Butler, Major M. R. C., genitourinary diseases; M. C. Harding, Capt. M. R. C., section of orthopedics; Frederick E. Diemer, Capt. M. R. C., section of radiography, E. J. McClung, First Lt. D. R. C., section of dentistry; Chief Nurse, Miss Jennie Booth, A. N. C.

The Medical Service has from the beginning been predominant in size. This service includes the receiving ward and for a time was made to include skin and syphilis. Calvin S. White, Major M. R. C., was Chief of this service from the time of organization of the staff until Dec. 20, 1917, when Dudley Fulton, Major M. R. C., became Chief of service. Major Fulton has remained in charge to the present date. The present organization includes one general assistant Chief of Service, one general supervisor or assistant for contagious diseases, a receiving officer with two assistants, ward surgeons of special attainments in pneumonia, heart, tuberculosis, meningitis, neuropsychiatric and gastrointestinal wards and ward surgeons for general wards.

An efficient receiving ward with an annexed 45 bed observation ward, divided into 13 small rooms, are considered strong features of the medical service and have done much to prevent error in assigning patients to wards and in the prevention of cross infection. The cubicle treatment of all contagious diseases is rigidly practiced. Face masks are required when patients are outside the cubicle; and gowns, masks, caps and gloves are worn by all attendants. Only 78 cases of cross infection are recorded on careful survey and the study would seem to indicate that the contact occurred previous to admission to the hospital in a majority of these cases. This is not large, when it is considered that 4500 cases of contagious diseases have been treated to date.

Cerebrospinal meningitis has been in charge of Captain C. S. Wilson, M. R. C., until recently. Forty-one cases have been treated, with 26 per cent. mortality. Pneumonia has also been in charge of Captain Wilson. The early cases were lobar and broncho in type, but there were a great many typical cases almost from the start. The streptococcus hemolyticus type has been prevalent since January. The number of cases of all types has been relatively small and remained fairly constant until the latter part of March and the first of April, when the streptococcus type showed marked increase, until at the present date the largest number (83) of all types in hospital (streptococcus predominant) is recorded.

Bacterial grouping has been done since January. A systematic plan of observation, record and study has been developed. Total cases 193, with 18.1 per cent. mortality. Total lobar, 141, with 21.9 per cent. mortality. Total broncho 52, with 7.1 per cent. mortality. Total post measles 34, with 23.5 per cent. mortality. All of the above figures apply to completed cases. Total cases, including those still in hospital, is 248 and a mortality percentage including the incomplete cases would be 11 per cent.

The hospital passed thru an epidemic of German measles, reaching its apex in December, total cases to date 1000; true measles, apex in middle of March, total cases 375; mumps, apex in March, with total of 2400 cases and highest number in hospital at any one time about 1000; pneumonia, now at apex, total cases 248.

The greatest number of patients on the medical service at any one time was 1810 and the number has been above 1200 from December until about one month ago. There was a diphtheria scare in January with a number of cases among nurses and officers, but the prompt application of the Schick test and prophylactic immunization resulted in a prompt subsidence.

Special mention should be made of the tremendous stress that has been thrown upon the medical service and the hospital by the large number of patients that have had to be treated. During this entire period the work has been done in a hospital built for 1000 patients and only the greatest ingenuity and resourcefulness on the part of the Commanding Officer and the Chief of Medical Service has made the proper care of patients possible. In the latter part of February and for a period of six weeks it become necessary to use five barracks buildings in the cantonment for the housing of contacts and a few convalescents.

The Surgical Service was organized in September with Horace J. Whitacre, First Lieutenant M. R. C. as Chief of Surgical Service. A large number of minor operations were done in an improvised operating room, fitted up in an end room of Ward 70, during the latter part of September and the early part of October, 1917. Seven major operations for acute appendicitis and one for traumatic laceration of the stomach and duodenum were done at the Tacoma General Hospital previous to the opening of the general operating room. The operating room was opened on Oct. 23, 1917, and the first operations simultaneously performed were for inguinal hernia, one performed by Lt. H. J. Whitacre, M. R. C., Chief of Service, the other by Lt. J. R. Brown.

With the first organization of the Surgical Staff very definite rules of procedure were formulated to cover the admission of patients, the preparation for operation, operating technic in every detail, postoperative care, formula for enemata and method of giving them, consultations, etc. This absolute uniformity of procedure thruout the service has given excellent results. The plan of training ward surgeons has been, from the beginning, to require the ward surgeon to act as assistant in operations upon patients coming from his ward until such time as the Chief of Service felt justified in giving him the position of operator. The Chief of Service or his Assistant, Captain Paul Rockey, M. R. C., then acted as assistant to the ward surgeon until there was no possible doubt as to his ability to assume full responsibility.

The Chief of Service or his assistant have uniformly operated upon grave cases. This system of training has developed a large group of excellent dependable surgeons. The experiences of the service and the results obtained have been practically those of a metropolitan hospital. Hernia, hemorrhoids, varicocele, hydrocele, appendicitis, etc., have been operated upon by accepted methods and uniformly good results have been obtained. There have been a few infections (mainly minor infective) in clean cases. More than one bacterial study has been made to check up the operating room and ward technic and there have been no infections of clean wounds for a long time.

The fracture work of the service has been highly satisfactory and the results good. Long before war splints were received, the surgeons in this service, Captain J. R. Brown, M. R. C., and Captain Carl Snitkay, M. R. C., had devised and built such splints in the local blacksmith shop and were using them. Real benefit has resulted from the organization into one subdepartment of orthopedic, fracture and arthritis wards. The exhaustive study of arthritis has resulted in the unearthing of focal infection in 80 per cent. of the cases. The Dakin-Carrel methods have not been given wide application. The method is, however, well established in the pus ward.

Empyema was treated by costatectomy and open drainage until early in April. The results in pneumococcus empyema were good but the failure of certain cases of streptococcus empyema to progress favorably and a rising mortality led to the adoption of thorocotomy and negative pressure as the routine method of treatment. A most ingenious mechanism has been installed in the empyema ward by Captain E. W. Rockey, M. R. C., for the application of negative pressure. A water syphon pump has been installed in the utility room and connected with three-quarter inch galvanized pipe which runs the length of the ward on both sides. A cock is placed opposite each bed for connection with the chest tube thru a bottle which is placed on the floor. A water gauge is attached to the system and the negative pressure regulated to 15-18 inches water pressure. When a lower negative pressure is desired for an individual fresh case, a reducing column of water is connected with the tube leading from this particular cock to the bottle. This method of treating empyema is on trial. There has been no immediate mortality in the sixteen cases so treated; all are progressing favorably but are still in hospital.

A serious problem was presented to the Base Hospital at the very beginning by the genitourinary situation. The hospital was required to care for all of these patients who came with the first draft in September, 1917, as well as all soldiers in camp, and the only facilities for housing and treating them for three weeks were the hospital tents of Provisional Field Hospital "B." No less than 2250 treatments per day were given with a minimum of equipment. With the opening of wards these patients were all transferred to eleven wards and in addition as many as 800 patients per day were treated as out patients. Great credit is due Captain Ernest Bickford, M. R. C., and Lieutenant R. M. Jones for the efficient manner in which this department was conducted. One ward, locally known as "The Cafeteria," was ingeniously arranged for the handling and treatment of the large numbers of patients with a minimum confusion and maximum efficiency.

Skin syphilis and genitourinary are now combined in one service under the Surgical Service and this department is in charge of Captain John Butler, M. R. C., a high grade expert in skin and syphilis. Captain Peacock, M. R. C., has done valuable work in cystoscopy, kidney diagnosis and g. u. work, while Lieutenant Schoff has made a real addition to the subject of mumps-orchitis by determining that it is an epididymitis and not an orchitis. Every effort is made to prevent hospitalization in this department. All salvarsan injections are made in the evening, in order that the soldier may lose no time.

Surgery of the head has not been developed at this Base Hospital as a distinct section. The eye, ear, nose and throat department has been definitely under the surgical service from the beginning and brain surgery has been included as general surgery.

The eye service, ear, nose and throat service and dentistry are located in the eye, ear, nose and throat building. The eye service and the ear, nose and throat service are under the immediate supervision of Major W. H. Roberts, M. R. C.

The eye service is supplied with ample quarters and has been conducted for the greater part of the time by Major Roberts and Captain William E. Joiner, M. R. C. The work has not been excessive and, with the exception of certain special instruments, the equipment has been sufficient. The service includes the care of hospital patients, consultation examinations for regimental surgeons and the treatment of out patients. A card record system has been developed for this and the ear, nose and throat service which is in addition to the case record made for every hospital patient. This is considered essential because of the great number of out patients treated.

The ear, nose and throat department has been under a heavy handicap from the very beginning because of lack of equipment of every kind. Efficiency was attained only thru officiers using their own instruments. The service has been extremely heavy from the start. During the early months all operations in this department were done in the general surgical operating room. Since December all have been done in the eye, ear, nose and throat building, where a room with composition floor, good light and excellent scrub-up room is equipped.

Mastoiditis, acute and chronic have been the big problems. Tonsillectomy is being done with decreasing frequency, even tho a conservative policy has prevailed from the beginning. Some brilliant results have been obtained in so-called rheumatism. Operations for deviated septum are being done with decreasing frequency. Two wards have been maintained for the eye, ear, nose and throat service.

Very little brain surgery has presented. That presenting has been conducted by the Chief of Service and Major A. E. Rockey, M. R. C.

The X-Ray Department, under the direction of

Captain Frederick Diemer, has performed a big service. An average of 785 plates, 1075 fluoroscopic examinations and 960 dental films have been made per month. Fractures have been followed faithfully by x-ray check, pneumonia and empyema have been studied in this manner as a routine and a bismuth study is a routine part of the examination in gastrointestinal cases. All of the muster-in work, with its extensive chest fluoroscopy and plate work, together with the routine division x-ray examinations, are necessarily carried by the Base Hospital. Foreign body localization has been perfected and a substantial addition has been made to this subject by the invention of a new instrument by Lieutenant McRae. The quality of x-ray pictures has been entirely uniform and of a high grade.

The Department of Dentistry, started with a field dental chair and equipment, located in the receiving ward, was later moved to a room in the laboratory and x-ray building, as designated in the original hospital plans, and finally found adequate quarters in the middle wing of the eye, ear, nose and throat building. Here five rooms and a large hallway, used as a waiting room, are provided. Three chairs and a dental laboratory are operated. Lieutenant Wight, D. R. C., an oro-dental surgeon, was assigned to the hospital in September, 1917, and relieved for overseas service in March, 1918. Four dentists assigned to the division were detailed for duty at the Base Hospital in September and this same efficient group of men, with Lieutenant McClung, D. R. C., as Chief, has served with great credit up to the present time. Splendid work has been done in routine dental work, extracting, apex infection, impacted molars, fractures and plates.

The relationship of the Base Hospital to regimental infirmaries has been uniformly harmonious. Some confusion and uncertainty as to method of transferring patients and as to the relationship existed at the beginning, but this was to be expected and was rapidly eliminated by frequent joint conferences between regimental surgeons and base hospital staff.

The Laboratory has been a great factor in the efficiency of this Base Hospital. It had its beginning on a store box in a tent and began serious work when the totally inadequate laboratory building was completed. The Base Hospital laboratory has necessarily had to do work of the hospital, of the division and of the public health service. The work for the public health service has involved an enormous number of water, milk and food analyses. That of the division has meant the systematic cultural study of thousands of men for the detection of meningitis carriers and the same for typhoid and diphtheria. A Wassermann is required for all cooks and bakers and the water, milk and food supply of the cantonment must be constantly checked. The scope of the hospital work required no comment. Equipment came in slowly and native ingenuity was nowhere more fully brought out than in this department, where every sort of apparatus from Bunsen burner to incubator was improvised from construction materials.

The following departments have been established: pathology, bacteriology, chemistry, routine department (sputum, blood, gastric contents, urine, feces), respiratory unit (a group of organizations for the study of each contagion as it arose), media department, morgue, branch laboratory at mustering office.

Up to May 16, the following total number of examinations had been made:

Blood counts	2,234
Blood cultures	333
Blood sugar analysis	7
Chemical examinations	43
Diphtheria smears	410
Diphtheria cultures	2,857
Feces	2,759
Gastric analysis	290
Genitourinary smears	4,735
Gonococcus fixation test	10
Mastoid cultures	109
Meningitis, nasal pharynx	10,496
Meningitis, spinal fluid	276
Milk and ice cream	405
Pathologic specimens (tissues)	544
Pneumonia-sputum	189
Blood counts	61
Blood cultures	36
Pleural fluid	191
Precipitin, pleural fluid	66
Precipitin, urine	101
Schick test	436
Sputum for T. B. exam	2,955
Transfusion grouping:	
Uurine	6,604
Wassermann	1,812
Widal reaction	128
Water analysis	327
Miscellaneous	579
Throat culture for Heviolytic strepto	1,490
Autopsies performed	92
Total examinations	40,576
New cases of meningitis	41
New meningitis carriers detected	255
New cases of diphtheria	3
New diphtheria carriers detected	22
Meningitis contacts unexamined.	
Meningitis carriers in isolation.	

The total number of patients to date, May 20, 1917, has been 17,966. The total number of deaths from all causes has been 93, death rate .52 per cent. This includes eight suicides.

NAVAL HOSPITAL, PUGET SOUND, WASHINGTON.

By R. E. Hoyt, Medical Inspector, U. S. N.
BREMERTON, WASH.

Of the various structures comprising the present Base Hospital at the Naval Station, Bremerton, Puget Sound, the main building was erected in 1911. This building, of brick construction, followed closely the so-called "Navy type" hospital, similar structures being erected at the same time at the naval stations at Portsmbuth, N. H., Newport and Great Lakes. Owing to lack of sufficient funds available for hospital construction at that time, only one ward wing was erected at Puget Sound instead of the two originally designed.

The main portion of the building, three stories high in addition to a basement, contains, on the first floor, offices for Commanding and Executive Officers and Officer of the Day, clerical office, reception room, examining room, laboratory and four sets of quarters with baths, for pharmacists mates. The second floor has four sets of quarters for sick officers, officer of the day's mess room, bed room and library, linen room and chief nurse's room. The third floor was originally used for hospital corpsmen quarters. At the present time these rooms are fitted up for the reception of female enlisted patients of the Navy. There are accommodations here for thirty-five patients. In the basement of this main building are the dispensary, store-rooms, morgue and heating plant.

Directly back of this building and connected to it by a two story corridor is the commissary building. In the basement are kitchen, storerooms, cold storage plant, ice machines, etc. On the first floor are the main mess hall with capacity for one hundred and fifty patients, hospital corps mess hall and dining room for chief petty officers. The second floor contains the two operating rooms with the usual dressing, etherizing, sterilizing and instrument rooms. The x-ray and x-ray developing room, eye, ear, nose and throat room are also situated here.

The ward building, two stories high and a basement, connects with the administration building by corridors which are used as solaria. Each ward has the usual toilet and bath rooms, diet kitchens and quiet rooms. The ordinary capacity of each ward is twenty-three patients, altho thirty can be treated in emergency without undue crowding. The heating, lighting, plumbing and ventilation are all in accordance with the most modern and approved methods. The basement of this building contains bag rooms, storerooms, cells for prisoners or insane, bath rooms and diet kitchen, in addition to the main portion which is sufficiently large to be used as a ward to accommodate twenty patients in emergency.

In 1914, owing to the need of a larger hospital and facilities for treating contagious cases, three pavilion wards with capacity of twenty-five patients per ward were erected to the east of the main hospital, thus increasing the net capacity of the hospital from sixty to one hundred and thirty.

In 1917, with the establishment of the recruit training camps at the Naval Station and in Seattle, resulting in a great and sudden increase in the personnel of the station, additional facilities for treating the sick became urgently needed. In anticipation of this the Bureau of Medicine and Surgery provided for the erection of five temporary pavilion wards, each with a capacity of twenty-five beds and including quiet rooms, bath, toilet rooms and diet kitchens; three temporary one-story dormitories with baths for seventy-five hospital corpsmen; one building for civilian employees; one large kitchen and mess hall, and a building for a heating plant. These units, begun early in the summer of 1917, were completed and in full commission in October of the same year.

With the removal of all civilian employees and hospital corpsmen from the main building to quarters thus provided, additional bed space on the third floor was provided for about thirty-five patients and, as already stated, this floor was fitted up for female enlisted patients, this being the first time in the history of the Navy that accommodations for this class of cases have been provided.

Hospital tents sufficient to accommodate one hundred and fifty patients are available and eighty-five ambulant patients are being housed under canvas. The capacity of the hospital at the present time, taking into account all wards, tents and sick officers' quarters, is four hundred and forty patients as compared with an original capacity of sixty.

The work is very similar to that of civilian hospitals, treating chiefly acute diseases and injuries. Of course there are always a varying number of acute contagious cases, as measles, mumps, scarlet fever, etc., always cases of influenza, pneumonia, and rheumatism. On the surgical service cases of appendicities, hernia, varicocele, hemorrhoids, mastoiditis, empyema and the many suppurative conditions demanding surgical interference, fractures, etc., are the most common. The venereal clinic is usually large. The eye, ear, nose, and throat cases are numerous and many cases requiring operative procedures are treated.

The number of medical officers on duty varies with the number of patients and the availability of officers. For the past two years many of the recently enrolled medical officers have been sent here primarily for training and instruction in naval medical procedures before being assigned duty at sea. Under normal conditions the staff consists of one medical officer, rank of Captain or Commander, in command, one executive surgeon with the rank of Lieutenant Commander, one medical officer each for medical, surgical and venereal services, and one for laboratory duties. The junior ward officers alternate in acting as officer of the day for a period of twenty-four hours.

The nursing staff consists of fifteen female graduate nurses and enlisted hospital corpsmen of the Navy, the number varying with the needs of the hospital. The men of the higher ratings have charge of the dispensary and assist in office work, commissary department and property accountability. They also act as instructors to the newly appointed apprentices, stand the petty officer's watch and keep order and discipline among patients and corpsmen. The men of the lower ratings are assigned to the various wards, when they work under the instruction of the female nurses in charge. Regular periods of instructions are provided for these men and an intensive training has been planned for the purpose of making them capable of working independently in from eight months to a year. The clerical work is performed by enlisted female yeoman under the supervision of a medical officer.

In order to give some idea of the amount of work performed in the surgical and laboratory departments the following summary is taken from the last annual report of the hospital.

Major surgical operations under general anesthetics, 86 cases; major and minor surgical operations under local anesthetics, including two hernias, seven appendectomies and seven hemorrhoid cases, 79; operations on eye, ear, nose and throat, 201, which includes 83 tonsillectomies.

Salvarsan was administered in 85 cases, three receiving it according to the Swift Ellis method.

Laboratory reports show 470 Wassermanns, 450 blood examinations, 30 examinations of gastric contents, 60 throat smears, over 500 venereal smears, 1200 examinations of urine, 116 water analysis, 140 sputum examinations and 85 specimens of spinal fluid examined, beside many other tests, preparation of vaccines and administrations of antityphoid serum.

In the x-ray department over 320 plates were taken.

Typhoid Vaccination.—E. A. Fennel, Washington, D. C. (Journal A. M. A., June 22, 1918), reports observations on the agglutinin response after army triple typhoid vaccination, and gives charts which he says are almost self explanatory. They are the more typical and instructive ones of a group of thirty and represent graphically the variations of the typical and paratyphoid agglutinins under the influence of antityphoid vaccination as formerly and at present administered by the army. He finds that definite agglutinins for all three organisms develop after the use of army vaccine and are equal after alternating doses and triple vaccine. The methods are equally effective and the latter has the advantage of being time saving. Prior vaccination has the effect of repressing agglutinins for the specific organism and fluctuations in the agglutinin content occur after vaccination in normal cases, and have little diagnostic value in cases of fever.

SEATTLE HOSPITALS.

By Clarence A. Smith, M. D.

SEATTLE, WASH.

Medical visitors to a city are always interested in the number and character of its hospitals. In order to satisfy the desire for such information relative to the city of Seattle, some facts and data are presented concerning each of them.

In eastern cities the custom commonly prevails for each hospital to have its own staff of visiting physicians and surgeons, who have the exclusive privilege of treating its patients. This custom does not usually exist in western cities. In Seattle, for instance, all of its hospitals, with a few exceptions, are open for the reception and treatment of the patients of any reputable physician, according to his own methods. The King County Hospital, the City Emergency Hospital and the Firland Sanatorium for the treatment of tuberculous and contagious diseases, being maintained from the public funds and treating its patients without charge, have each its own visiting staff who alone treat the patients. The Children's Orthopedic Hospital has a visiting staff which cares for patients who come without attending physician. At the same time any physician can enter his patients for his own treatment. The Pulmonary Hospital, at Riverton, treating only tuberculous cases, also has its own staff which attends all of its patients.

Altho the city has a liberal supply of hospitals, the beds are inadequate for the demands and the different institutions frequently find it necessary to decline to receive patients when all the beds are occupied. This condition is due to the rapid growth of the city during recent years, which has not been met by corresponding increase in hospital provision, a condition often observed in cities with such rapid development.

PROVIDENCE HOSPITAL.

This is the oldest hospital in Seattle, having been established in 1876 by the Sisters of Charity, who began hospital work at the County Hospital in Georgetown, at that time a separate city outside of the city of Seattle. In 1878 the institution was moved to the block of land bounded by Madison and Spring Streets, Fifth and Sixth Avenues. This hospital was a frame building, three stories in height, added to from time to time, until it occupied the whole block. This was for many years a famous institution in the medical history of the Northwest and received patients from a very large extent of territory, being for many years the only institution of the kind to serve an extensive district. For many years Dr. E. L. Smith was the surgeon to the hospital, he having a very wide acquaintance and enviable reputation as a surgeon. From the beginning the hospital has always been open for the reception of patients treated by any physician of the city.

PROVIDENCE HOSPITAL.

In 1911 the hospital was moved to its present location, occupying the block bounded by Jefferson and Cherry Street, and Seventeenth and Eighteenth Avenues. This is a very imposing brick structure, six stories in height, equipped in the most modern fashion and with all up-to-date appliances. It is provided with four hundred beds and treats on an average of three hundred and fifty patients a month. During 1917 over 3800 patients were admitted.

Its service is divided into medical, surgical and obstetric. One wing on the second floor is devoted to the latter class of patients, about forty-five cases of labor being treated monthly. During 1917 there were nearly five hundred deliveries in the hospital.

The institution is under the direction of the Sisters of Charity, who number 46 in the hospital. In 1907 a training school for nurses was established with pupils in training, at present numbering eighty-four.

KING COUNTY HOSPITAL.

KING COUNTY HOSPITAL.

This hospital was established about 1885, being located in the building known as the Poor Farm, on the 200 acres owned by King County at Georgetown, one of Seattle's suburbs. It was situated on the bank of the Duwamish river, now distant a mile west due to the location of the Duwamish water way which was constructed two years ago. In 1894 the present building was constructed. It is under the supervision of the county commissioners and is managed by a superintendent, who at the present time is Dr. J. Tate Mason. It has a medical and a surgical staff composed of well known physicians of the city, representing all the specialties in practice. The hospital contains 200 beds. During the year 1917, 1,378 patients were admitted. There were 453 surgical operations during the year, beside 38 obstetric cases. The nursing staff consists of 15 graduate nurses.

SEATTLE GENERAL HOSPITAL.

SEATTLE GENERAL HOSPITAL.

This hospital was organized in 1895. At that time there was only one other hospital in the city. It occupied several sites in rented buildings before it was permanently established in its own building at Marion street and Fifth avenue. It had various trying experiences until November, 1899, when its management assigned its property and control to the Deaconess Home Association, of the Methodist Episcopal church. Its immediate control has been in the hands of a committee, of whom Mr. T. S. Lippy is the chairman.

The hospital is self-supporting, any surplus being expended on the equipment and improvement of the plant. It is open to the patients of all reputable physicians and the service is divided into medical, surgical and obstetrics, comprising 150 beds. This hospital receives about 4,500 patients a year. There are nearly 200 operations and 50 confinement cases per month. The hospital is equipped with a modern x-ray department and laboratory under the charge of a graduate nurse, experienced in this line of work and supervised by an expert pathologist. It maintains a resident interne. During its existence many well known physicians of the city have held this position. The school for nurses numbers 75. About 250 have graduated from the school, 40 of whom are now in the Red Cross service.

MINOR PRIVATE HOSPITAL.

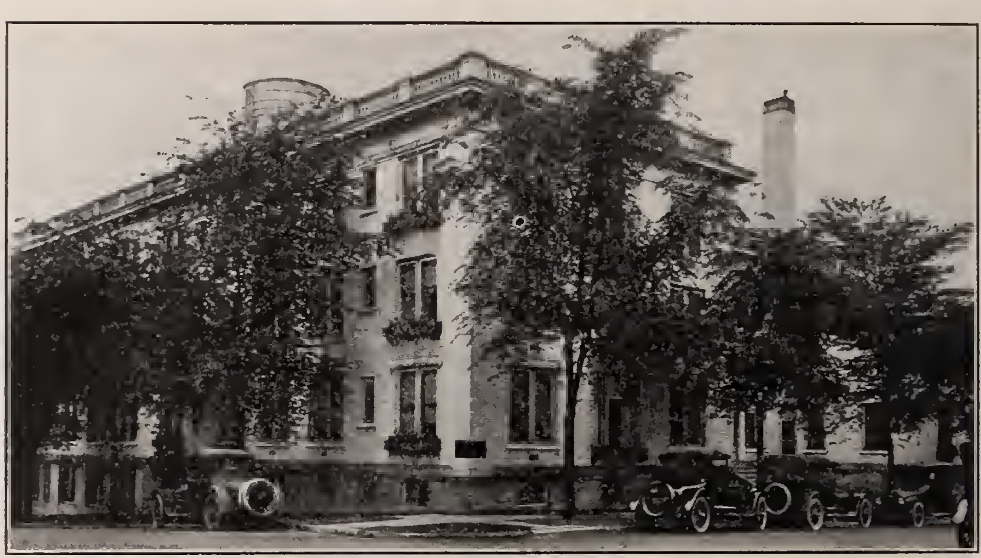
This hospital was established thru the efforts of Dr. George W. Hawley, who practiced in Seattle for several years following 1900. During October, 1905, the St. Anthony Association was incorporated under the laws of the State, thru which it was decided to conduct the hospital. Shares of stock were sold, the original stockholders consisting of forty-three members. The property at the corner of Harvard Avenue and Spring Street was purchased, on which the hospital building was erected. Its plan of operation offered the institution to the use of all reputable physicians with equal privileges, the hospital itself being conducted under the direction of a Board of Trustees composed of physicians of the city.

It was decided to name the hospital in the memory of Dr. Thomas T. Minor, one of Seattle's early physicians, who died in 1889. He was a man of prominence, not only in the medical profession, but in the civic affairs of the city.

The hospital was constructed during the spring of 1906, after Dr. Hawley had visited eastern hospitals for the purpose of inspecting modern institutions of this character. The building was completed and opened for use in June of that year. The first superintendent and supervisor of nurses was Miss Margaret Leary, of Bellevue Hospital, New York. Miss Lucy I. Pringle, of the Lakeside Hospital, of Cleveland, was appointed head surgical nurse who became superintendent of the hospital in the following year, which position she has occupied to the present time. At the outset the hospital employed graduate nurses, but after a few months it was decided to establish a training school for nurses.

MINOR PRIVATE HOSPITAL

The original capacity of the hospital was thirty-six beds, which has been increased from time to time to seventy-five, with an average of seventy-two patients in the hospital. The service consists of medical, surgical and obstetric, also diseases of children. The surgical service consists on an average of one hundred and twenty operations monthly, while the obstetric service averages twenty-four cases per month. Since the institution was established it has treated 15,710 patients. While the training school originally contained twenty-four nurses, at the present they number fifty. The institution owns a nurses' home on the property adjacent to the hospital, in addition to another house utilized for the same purpose. It is contemplated at a future date to erect a new hospital of much larger capacity.

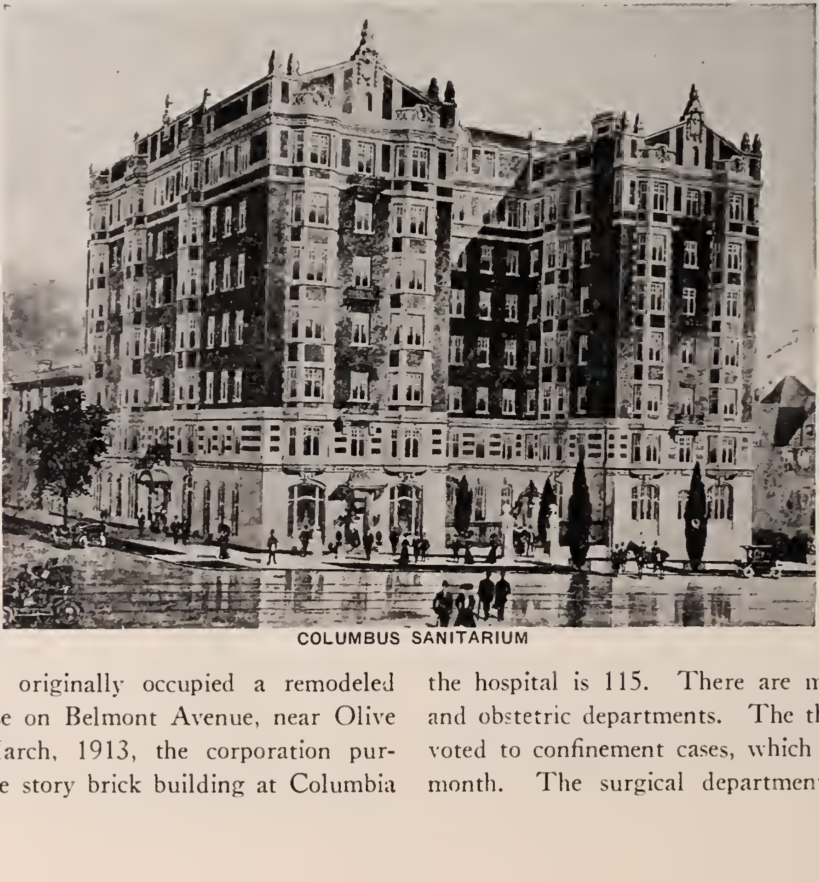


SWEDISH HOSPITAL

SWEDISH HOSPITAL.

This hospital was established in June, 1908. It was organized under the direction of a Board of Trustees, consisting of business men of the city and has no affiliation with any other institution or organization. It originally occupied a remodeled apartment house on Belmont Avenue, near Olive Street. In March, 1913, the corporation purchased the three story brick building at Columbia and Summit Avenue, which had just been constructed by Dr. E. M. Rininger, whose sudden death had prevented its use. Later the hospital bought the remainder of the block to the west, thus doubling the hospital property and containing a building which is occupied as the nurses' home.

In 1916 an addition was built to the hospital which provides for 125 beds, the original hospital containing 70. The average number of patients in the hospital is 115. There are medical, surgical and obstetric departments. The third floor is devoted to confinement cases, which average 70 per month. The surgical department averages 160



COLUMBUS SANITARIUM

operations per month. The training school for nurses contains 80 pupil nurses.

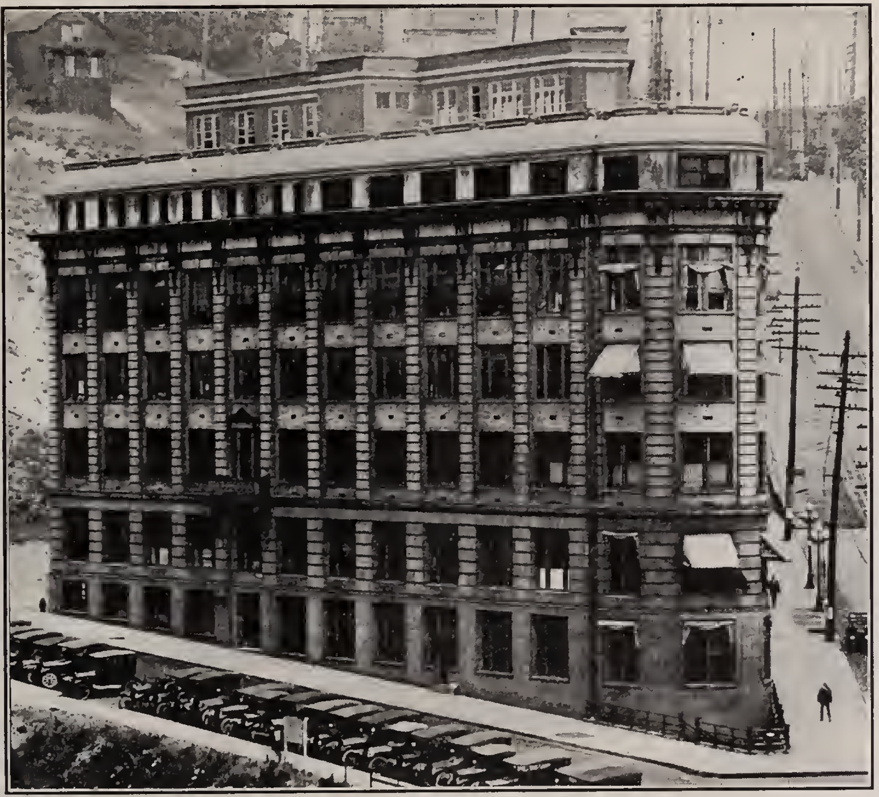
COLUMBUS SANITARIUM.

This hospital is located at the corner of Madison Street and Boren Avenue. The building was originally constructed and occupied as the Perry Hotel. In May, 1916, it passed to the control of the Missionary Sisters of the Sacred Heart, who now maintain it as a general hospital, under the name Columbus Sanitarium. They have accommodation for 175 patients. All kinds of patients are received, including medical, surgical and obstetric. The sanitarium feature is emphasized under the department of hydrotherapy, special attention being given to treatment by baths and electricity. Patients are received for treatment by any doctor in the city. A training school for nurses has also been established.

CITY EMERGENCY HOSPITAL.

This hospital was established and opened for patients April 1, 1909, occupying the fourth floor of the Public Safety Building, on the triangular piece of ground bounded by Yesler Way, Terrace Street and 5th Avenue. This is a free hospital, devoted to emergency cases. Any emergency case is received at any time. If the patient is able to pay for treatment, he must be moved to a pay hospital as soon as his condition will warrant it. If he is indigent, he is treated at this hospital if he has been a resident of this city for less than six months. If he has lived here longer than that period, he is transferred to the County Hospital.

The hospital is under the immediate direction of the City Commissioner of Health, Dr. J. S. McBride. The patients are cared for by a visiting staff of Seattle physicians, consisting of fourteen members, the personnel of which is changed every two months, making six periods of service. There are three internes who devote all their time to the hospital work. There is a druggist who devotes his time to this hospital and the Firland Sanatorium. The training school for nurses consists of a supervisor and two assistants, with eighteen nurses in training. The nurses' home occupies the sixth floor of the building. The hospital has a complete laboratory for chemistry, bacteriology and



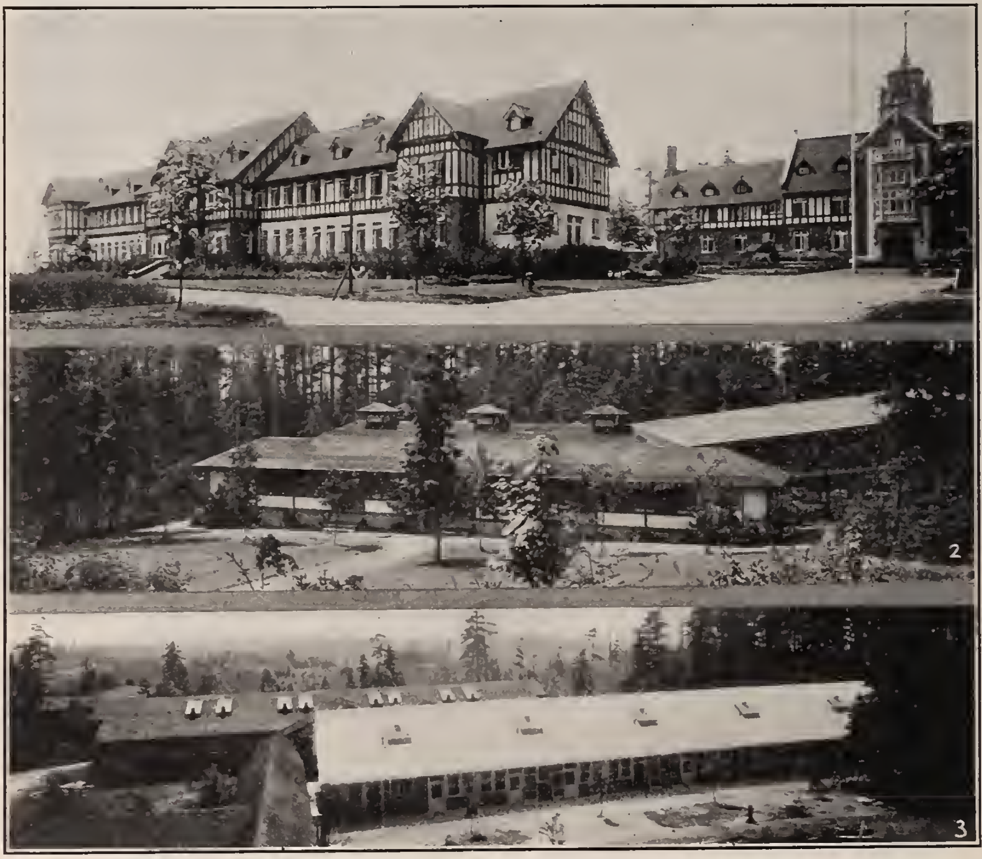
CITY EMERGENCY HOSPITAL.

Basement floor, Police Department. First floor, entered from Yesler Way, on right, headquarters of Draft Boards. Second floor, Quarantine Hospital for venereal diseases. Third floor, City Department of Health and Tuberculosis Clinic. Fourth floor, City Emergency Hospital. Fifth floor, City Jail. On roof, Nurses' Home.

pathology, also an x-ray equipment. It has its own ambulance.

The departments of service are medical, surgical, obstetric, gynecologic, pediatric, mental and nervous, eye, ear, nose and throat, genitourinary, skin and dental. The hospital contains 90 beds. During 1916, 1400 patients were treated. In the obstetric department there were 62 confinements during that year.

The outdoor clinic is held daily except Sunday on the third floor of the building. There is a staff of attending physicians in addition to the hospital internes. During 1916, 17,603 patients were treated. In addition the hospital internes treated 2,420 patients in the city prison which occupies the fifth floor of the same building.



1, Firland Sanatorium: To right, Administration Building; to left, Hospital. 2, Children's Pavilion. 3, Isolation Hospital.

FIRLAND SANATORIUM.

The King County Antituberculosis League was organized in 1909. The work which it conducted for several years engaged the interest of Mr. H. C. Henry, who presented thirty-five acres of land situated eight miles north of the city, for the purpose of building a tuberculosis sanatorium. The institution was started in 1911, consisting of a number of tents and was conducted by the County League for about a year.

In 1912 the institution was taken over by the city of Seattle and made a part of the department of health, under the supervision of the health commissioner. The institution is entirely free, no patient being received who is able to pay for treatment. In order to act most effectively in the reduction of tuberculosis in the city, the policy was adopted of giving preference to patients in advanced stages of tuberculosis who are, therefore, the greatest menace to others. Patients are received only after demonstration of bacilli in the sputum.

The Sanatorium consists of an administration building and hospital, the latter containing 150 beds. At the last city election $60,000 was voted by the people which will be used for construction of an open air pavilion which will accommodate 140 additional patients. When this is completed some patients will be received in the first and second stages who can pay something for treatment.

The patients are cared for by a resident physician and a visiting staff of city practitioners. They have a superintendent of nurses with twenty-four graduate nurses, a portion of whom also care for the children's tuberculous ward, the city clinic and also act as visiting nurses.

The Children's Pavilion is devoted to tuberculous children in early stages, both pulmonary and glandular, of whom the latter comprise the largest number. This contains twenty-five beds. There is practically 100 per cent. of recoveries among these patients.

The tuberculosis clinical department is held on the third floor of the Public Safety Building, clinics being conducted four days in the week. The staff consists of six physicians, whose services are rotated. During 1916 a total of 728 new cases were recorded, while 1,282 were treated during the year. It is interesting to note that during the year 1916 there were 255 deaths from tuberculosis in the city of Seattle. There are five nurses connected with the clinic, one of whom is employed in the office, while four act as visiting nurses, making 7,422 visits during the year of 1916.

THE PULMONARY HOSPITAL

The Isolation Hospital comprises one of the units at the Firland Sanatorium. It is considered one of the best investments which the city has made as a preventive of disease. It is free for the treatment of all communicable diseases except tuberculosis, and receives both children and adults. It provides perfect quarantine for the patients and is a necessity for the large class of residents in hotels and apartment houses. It was constructed in 1914 and contains 40 beds. An addition is under construction which will add 30 more beds. The staff consists of the resident physician at the Sanatorium, together with the chief quarantine officer and others in this division when called upon for service.

PULMONARY HOSPITAL OF THE CITY OF SEATTLE.

This institution was established as the result of tuberculosis work instituted under Dr. W. R. M. Kellogg, who located in Seattle in 1904. He was the first physician in the city to make a specialty of tuberculosis. He died in 1908, at the age of 33. During his brief residence in the city he made a marked impression upon the medical profession and interested many people in the subject of tuberculosis. Among the latter was Miss Loretta Denny, who provided funds for the purchase of land and the building of a hospital for the treatment of pulmonary tuberculosis.

After Dr. Kellogg's death, forty-two acres of land were purchased for the hospital, located at Riverton, about ten miles south of Seattle, on the hillside sloping eastward toward the Duwamish River. The hospital was constructed and open for patients in February, 1910. The institution is conducted under the direction of a Board of Directors, composed of the following Seattle citizens: Charles H. Frye, James S. Goldsmith, Joshua Green, Harold Preston, R. H. Denny, A. S. Taylor, Drs. C. A. Smith and Frederick Slyfield. From the opening of the hospital until 1915 Dr. Elmer E. Heg was the medical director. Dr. Frederick Slyfield was the visiting physician from 1912 until 1915, when he became the medical director which position he occupies at present. The visiting physician is Dr. H. B. Haskell, with Arthur Heinemann, bacteriologist and serologist and Miss Marie Sweet, roentgenologist.

The hospital is intended for the treatment of patients suffering from pulmonary tuberculosis in improvable stages. Having no endowment it is supported by the revenue from the patients. Being an institution for treatment of a single disease, the patients are treated only by the hospital staff. The success of the hospital in the treatment of such patients has demonstrated that the climate of Puget Sound is highly favorable for the improvement of this class of cases.

The hospital is built on the cottage plan, consisting of twenty buildings. The original capacity was thirty patients which has been increased at the present time to fifty-five. The hospital obtains milk from its own herd of fifteen Holstein cows. It is provided with a well equipped bacteriologic laboratory for routine work as well as research. This is in a separate building in conjunction with a complete x-ray equipment.

CHILDREN'S ORTHOPEDIC HOSPITAL.

This institution was organized in 1907, beginning with six beds in a ward of the Seattle General Hospital. Its first care is for destitute crippled and sick children, for the treatment of whom a staff is provided. In addition it receives pay patients from private physicians. There are 57 beds, including three private rooms. Since it was established 2441 patients have been treated, of whom 1,256 were from Seattle, 604 from other towns in Washington. In 1917, 399 operations were performed, including cleft palate, hare-lips and a great variety of orthopedic operations.

There is an out patient department with its attending staff and a dental clinic which gave 424 treatments during the past two years. The nursing staff is composed of graduates, in addition to which a service is offered to pupil nurses from accredited training schools for three months practical work. In addition they are given courses of lectures and class work, particular attention being given to the nursing of deformities and diseases of the bones and joints.

CHILDREN'S ORTHOPEDIC HOSPITAL.

LAKESIDE HOSPITAL.

This institution is located at Woodland Park Avenue and Kilbourne Street, north of Lake

Union. It was established as a hospital about eight years ago and has existed under several names. Three years ago it was opened under the name of Lakeside Hospital, in charge of its proprietor, Mrs. Elizabeth M. Day, who is the matron. It has capacity of 60 beds and receives medical, surgical and obstetric cases. About fifteen of the latter are treated monthly. It has a training school for nurses, with eleven student nurses and four graduates. It is open to the admission of patients of all physicians.

LAKESIDE HOSPITAL.

PUBLIC SCHOOL CLINIC.

PUBLIC SCHOOL CLINIC.

This clinic is located at Seventh Avenue and Marion Street, on the block occupied by the Central School. It was established in May, 1914, under the direction of the Seattle School Board. Its administration is under the direction of Dr. Ira C. Brown, as School Medical Inspector, with an assistant, Dr. Maybelle M. Park. A force of fourteen field nurses is employed, one serving at the hospital in connection with the Parental School, at Mercer Island. The duties of the nurses consist of inspecting children at the schools and in the city, giving advice to parents concerning impaired physical conditions. The staff at the clinic includes six physicians, two dentists and a dental nurse who care for diseased conditions under general medicine, eye, ear, nose and throat and teeth.

The object of the clinic is to treat school children of indigent parents who are unable to pay for services from physicians. A diligent effort is made to restrict treatment to this class of patients. During the school year of 1917, 372 operations were performed at the clinic, while 17,357 operations were advised on children whose cases were referred to their own physicians. Since its establishment, 6,227 patients have been treated at the clinic.

Some interesting facts have been ascertained from observations made at the clinic. Among high school students, goiter has been found among one in eight of freshmen, one in six of sophomores, one in four of juniors, while among seniors it has been reduced to one in ten, which reduction has been attributed to the elimination of focal infections from the treatment of teeth and tonsils. It has been observed that 15 per cent. of children suffering from tonsillitis have subsequently been afflicted with acute articular rheumatism. It was noted, after the clinic had been established for two years, that the mental condition of the school children taken as a whole had improved nearly three per cent., due to the improved general condition of the pupils, as ascertained by the school survey. This Public School Clinic was the first established in the United States. Its policy and method of administration have been taken as a model by national and other city workers.

THE CITY OF SEATTLE.

For the benefit of visitors at the tri-state meeting and others not familiar with the previous history of the city of Seattle, a few facts and the accompanying illustrations will prove of interest, showing the growth and development of the city. It is unusual to find a city of this size, whose span of existence from its development from the primeval forests can be included in the life of a single individual.

The history of the city began September 28, 1851, when a few settlers arrived at Alki Point. These were real pioneers who crossed the plains in the early primitive fashion. The point of land on which they settled presented special attractions and they thought here to locate a city which they would call New York. Their incredulous Indian visitors smilingly said, "Yes, bye and bye," which in the Chinook language is equivalent to "Alki," hence the name of the first settlement.

The early settlers later took up government claims of 320 acres each, extending from the region of King Street to Lake Union. Their names are commemorated in streets and buildings of the city, such as Denny, Terry, Bell, Boren, Maynard, Yesler and others.

The city was named from Chief Seattle (Sealth), chief of the Suquamps and allied tribes. He was one of the good Indians. He was born across the Sound at Port Madison, in about 1790, of a Suquamish father and Duwamish mother. While a leader among the Indians, he was also an honest friend of the white man. He died in 1866, being about 80 years of age.

Among his descendants, the most famous was Angeline, born about 1830, for many years a familiar figure on the streets of Seattle and always a privileged character among the old settlers. Her Indian names were Wee-wy-cke and Kick-is-om-lo. She married Mr. Dokub Cud. Her more euphonious name of Angeline was given her by Mrs. Doctor Maynard, in the early fifties. When she met the dashing widow Cud and was told her name, she replied, "You are too good looking a woman to carry around a name such as that and I now christen you Angeline," which name she carried to her death, which occurred in 1896.

The first physician of the city was Dr. David S. Maynard who was born in Vermont 1808 and died in 1873. He had a common school education, followed by a medical course. He practiced in Ohio until 1850, when he crossed the plains for Oregon. His possessions consisted of a mule, a buffalo robe, a gun, a few medicines, surgical instruments and several books. He located at Olympia. After a time he gained the friendship of Chief Seattle who persuaded him to move to the new city on Elliott Bay. With all his possessions on a scow and with Indians for companions, he sailed down Sound to his new home. He married a second wife in Olympia who died in Seattle in 1906, being over ninety years of age.

The doctor was a versatile genius. In Olympia he had a small merchandise business which he continued in Seattle, his store being a building 18 feet by 26 feet, with an attic in the front half. The walls were of logs and the roof of shakes. He carried a stock of clothing, hardware, groceries and ship chandlery. In October, 1852, in the "Seattle Exchange" the doctor advertised, "The subscriber is now receiving direct from London and New York, via San Francisco, a general assortment of dry goods, groceries, hardware, etc." Among his other activities he put up salmon for shipment. He employed men in squaring timbers, cutting piles and splitting shingles, which he shipped to San Francisco. He also advertised for a blacksmith. He took up a claim south of Yesler Way where his memory is perpetuated in Maynard Avenue.

The history of the city divides itself into three periods, the first extended from its foundation to the disastrous fire of June 6, 1889, during which period it grew to a population of about 20,000. This fire was a blessing in disguise, since it furnished an opportunity of straightening and widening the business streets which in their original condition had become a distinct menace. The second period of about ten years followed the fire, being accompanied by a period of rapid building which was checked by the panic of 1893 and the subsequent depression. It extended to the discovery of gold in Alaska and the consequent rapid growth, due to the city becoming the main shipping point for Alaska trade. During this time the population had enlarged to about 55,000. The third period, covering about the last twenty years, has exhibited the greatest growth, reaching at the present time a population of about 350,000.

The city of Seattle is unique among the large cities of the country in possessing no medical school and having no free clinics, aside from that connected with the City Emergency Hospital. The common interests of the medical profession have centered about the activities of King County Medical Society which was established in the fall of 1888 and has had a continuous existence since that time with varying periods of activity and quiescence in the earlier years, but a live factor in the life of the city during the past twenty years. Beside this are several smaller societies based on the interests of a specialty or including physicians of a particular locality.

The Medical Library, located in the basement of the Cobb Building, was originally founded in

ANGELINE, DAUGHTER OF CHIEF SEATTLE.

1898 under the auspices of the Washington Medical Library Association. The original collection of books was destroyed when the City Public Library was burned in 1900. It was not until 1908 that a working library was again inaugurated. It has continued to grow until it now numbers a total of about six thousand volumes. This has been rendered possible by the accumulation of literary material collected thru NORTHWEST MEDICINE, together with books purchased by the members of the association.

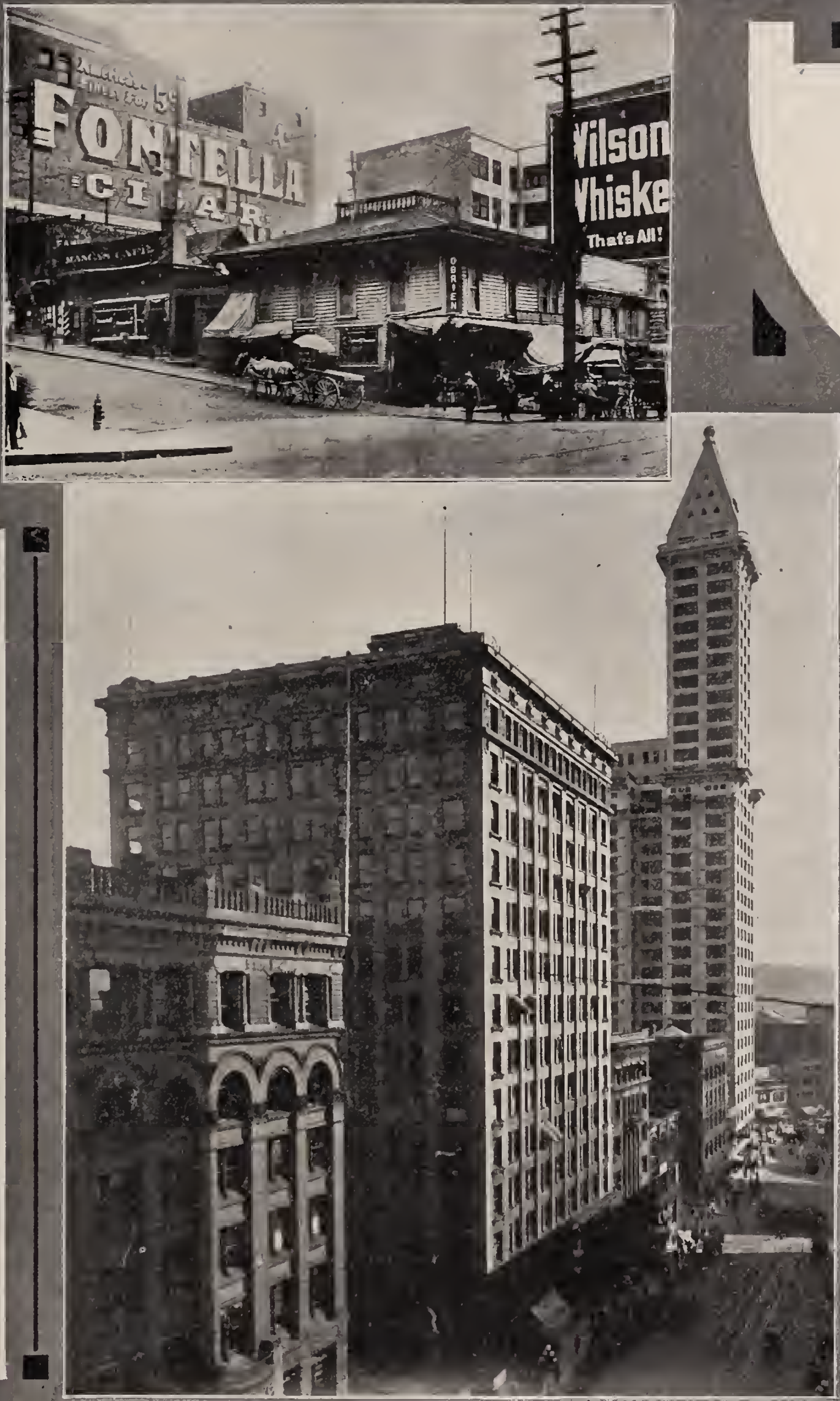
The University of Washington, situated in Seattle, is the successor of the University of Washington Territory, which was founded in the earliest days of the city. It was established according to an act of Congress in 1854, granting two townships of land in the territories of Oregon and Washington for the establishment of universities. Washington University was located in Seattle in 1855. In 1858 it was changed to Lewis County by legislative action, but the session of 1861 resulted in the building of the University in the city of Seattle. A tract of land was given for this purpose in the city of Seattle, 8½ acres being donated by A. A. Denny and 1½ acres by C. C. Terry, the value of the land at that time being estimated at about $500. In 1862 the main building, dormitory, boarding house and president's house were built which comprised the buildings of the university for a period of twenty-five years. The institution had many ups and downs, being closed several times for lack of funds when close-fisted legislators refused to appropriate sufficient for its maintenance. During these years ten presidents presided over its destinies, the first of whom was A. S. Mercer.

In 1891 the legislature passed an act providing for a university land and building commission, authorized to locate the university on a tract of land not to exceed 160 acres. The beautiful and commodious site was selected on the borders of Lake Washington, upon which the present university was built and developed to its present magnificent proportions. The ten acres, originally valued at $50 per acre, was at this time leased for a period of fifty years, dating from 1904. On this have been erected the commanding structures of the Metropolitan Building Company which at the termination of the lease will revert to the university. It is estimated that the value of the property at the end of that period will be at least three millions and a half.

During the last twenty-five years the proposal has several times been made and strongly urged to establish a medical school in connection with the university. For various good and sufficient reasons this plan has never been adopted nor encouraged, yet medical subjects have been taught in the curriculum and a pre-medic course has been established for a number of years. Nearly all of the laboratory work commonly scheduled for the first two years of a medical course has been taught in the regular curriculum. In view of the quite large number of students in the state of Washington who are enrolled in medical institutions in various parts of the country, it has been considered advisable by the university authorities to establish the first two years of a medical school in connection with the pre-medic course. If this plan is carried out, the last two years of clinical instructions will not be included nor will medical degrees be conferred. It is contemplated to offer students the opportunity of pursuing the studies of the first two years in such an efficient and thoro manner that credit for such work may be given by Class A medical schools in the medical colleges of the west or east. It is to be noted in this connection that Washington is one of the few states in the Union which has not a single medical school and the University is practically the only one of its size having the other departments of university work, but offering none in the department of medicine.

A SECTION OF THE UNIVERSITY OF WASHINGTON CAMPUS.

SEATTLE PUBLIC LIBRARY.



SECOND AVENUE AND CHERRY STREET IN 1880 AND TODAY.

NORTHWEST MEDICINE
The Journal of the State Medical Associations of Oregon, Washington, Idaho and Utah.
Devoted to the Interests of the Medical Profession of the Pacific Northwest.
Editorial Office, 1011-12 Cobb Building, Seattle, Wash.
JULY, 1918.

EDITORIAL

MEMBER FOOD ADMINISTRATION
IT'S ONLY TWO DAYS EACH WEEK
THIS IS A WHEATLESS DAY

PUZZLE-FIND THE SLACKER

THE HOSPITAL NUMBER.

The present issue of the journal differs in several respects from any that has hitherto been published. Owing to the tri-state meeting to be held in Seattle this month, it was thought advisable to devote the pages of the July issue to subjects which would directly bear on this meeting and the city in which it is to be held. Accordingly no written papers have been included. Instead of presenting papers of this character, hospitals have been featured, naturally a leading place being given to the base hospitals at Camp Lewis and the Naval Station at Bremerton. Since hospital facilities constitute a potential war measure in all our large cities, it was thought a brief description of all such institutions in Seattle would be of interest. At some future time we hope to give similar space to hospitals in other cities of the Northwest. Since Seattle is to be the convention city, attention has been given to some features of interest to visitors which will show its development and growth. It is hoped that this variation of the customary arrangement of a medical journal may meet with favor among our readers

THE TRI-STATE MEETING AT SEATTLE.

The meeting at Seattle, July 17-19, will appeal strongly to all physicians in Oregon, Washington and Idaho, who can find it possible to attend. It will be held at the Elks Club, Fourth and Spring Street. This will be the only meeting of the year for the associations of those states, so that a large attendance is anticipated. As indicated by the program it will have a marked war flavor. Not only papers and addresses will deal with war subjects, but the third day of the meeting spent at Camp Lewis will give all an opportunity to personally observe something of the routine army work, in which many of our fellow physicians are engaged. The evening of this day will be devoted to a dinner dance at Tacoma Golf and Country Club near Camp Lewis. The physicians of Seattle extend a cordial welcome to all members of the three associations to attend this tri-state meeting.

PROGRAM.

Wednesday, July 17, 10:30 o'clock a. m.

Meetings of Houses of Delegates—Idaho, Oregon and Washington.
Reports of officers and committees.

2 o'clock p. m.

General Assembly.
Address of Welcome—Hon. Ole Hanson, Mayor of Seattle.
Presidential Addresses:
  Dr. W. F. Smith, Boise, Idaho.
  Dr. E. E. Straw, Marshfield, Oregon.
  Dr. G. M. Horton, Seattle, Washington.
Military and Civilian Venereal Problems:
  Lieut. Com. C. F. Ely, U. S. N.
  Maj. I. L. McGlasson, M. R. C.
  Capt. A. H. Peacock, M. R. C.
  Lieut. G. S. Whiteside, U. S. N. R. F.
  Dr. B. J. Lloyd, U. S. P. H. S.
  Dr. J. S. McBride, Commissioner of Health, Seattle.

8 o'clock p. m.

Infantile Pyloric Stenosis—Dr. Albert Straus, Chicago, Ill. Discussion by Dr. E. McKechnie, Vancouver, B. C.
Followed by an informal smoker.

Thursday, July 18, 9 o'clock a. m.

A National Safety Demands Early Recognition of Parabronchial Involvements in Children—Dr. E. A. Pierce, Portland, Ore.
Goitre—Dr. H. P. Marshall, Spokane, Wash.
Pneumonia—Maj. C. S. Wilson, M. R. C.
Chronic Ulcerative Colitis. Review of 117 Cases—Dr. A. H. Logan, Rochester, Minn.

2 o'clock p. m.

Neuropsychiatric Problems Encountered by Exemption and Advisory Boards of Interest to General Practitioners—Dr. Wm. House, Portland, Ore.
Intestinal Autointoxication from a New Point of View—Dr. W. C. Alvarez, San Francisco, Cal.
A Biological Conception of Neoplasms and Its Clinical Significance (Lantern Slide Demonstrations)—Dr. W. C. MacCarty, Rochester, Minn.

8 o'clock p. m.

'he Medical Reserve Corps. Who Shall Go and Who Shall Remain at Home?—Dr. Franklin Martin, Chairman Medical Section, Council of National Defense.

urgical Operations Demonstrated by Moving Pictures—Seattle Surgical Society.

Friday, July 19.

'isit to Camp Lewis by automobiles leaving Seattle at 8:30 a. m.

:30 p. m.—Informal dinner dance at Tacoma Golf and Country Club.

)EVELOPMENT OF THE TRI-STATE MEETING.

The tri-state meeting to be held in Seattle this ıonth possesses a distinct significance, owing to ıe fact that it begins the second series of such ıeetings among the medical associations of Oregon, Vashington and Idaho. For the benefit of those ·ho are not familiar with the history of this meet- ıg, a presentation of a few of the facts will be of ıterest. These three states of the Pacific North- 'est are closely bound together geographically and ommercially, as well as due to the fact that they 'ere originally a part of one territory.

About ten years ago the idea was suggested by ome of Portland's physicians that it would be istinctly to the advantage of the physicians of ıese three states if they could be brought into ıore intimate relation with each other by holding ıint meetings of their state medical associations. epresentatives of the other two states at once ppreciated the force of the suggestion and after ıitable preliminary meetings the first tri-state ıthering was held in Seattle in the summer of)09. This was considered an especially opportune ne and place, since the Alaska-Yukon-Pacific xposition was held in that city during the sum- er. This proved to be the most ambitious medi- l meeting which has ever been held by the pro- ssion of this region. The registration showed ı attendance of four hundred and ninety physi- ıns. The scientific meetings were held in three ctions for medicine, surgery, and eye, ear, nose d throat, which offered an opportunity to se- t presiding officers from each of the three sociations. At the time it was decided to adopt e three-fold cycle and hold a similar meeting ree years later, which occurred in Portland. his was likewise a successful assembly, tho nat- ally on a smaller scale than the first. As was e case three years previously, the other two ıtes abandoned their individual meetings, provision being made for the House of Delegates of each to hold its separate meeting.

In 1915 the third joint meeting was held at Lewiston, Idaho. This city being distant from the large centers of the other two states, a small attendance was anticipated but a gratifying representation appeared both from Oregon and Washington. In the meantime there was a feeling among the doctors of all the states that it would be desirable to hold meetings of the visiting associations in their own states, in addition to the joint meeting. This plan accordingly was followed and meetings in the other two states were held at times that would not conflict with the joint meeting at Lewiston. This year, however, it has been thought best to revert to the original plan, so that the associations of Oregon and Idaho will merge their annual meetings with that of Washington, all uniting in that at Seattle.

Viewing in retrospect the three meetings already held, the benefit from them is clearly apparent. Any measure which brings the members of the medical profession into more intimate relationship, thus making them better acquainted with one another, is a distinct advantage to the profession as a while. By this means one learns to value the knowledge and personal qualifications of his fellows in other sections which is impossible without a personal association with them. No man or group of men has a monopoly on general knowledge or medical lore, altho more or less isolation of the individual may tend to give him such an impression. The broadening influences of periodical association with those from other localities is most successful in dissipating such narrow views. Furthermore, jealousies and misunderstandings, which sometimes exist among individuals in separated localities, can be most readily prevented and rectified by personal contact and exchange of views. One of the happiest results of such meetings is the personal friendships formed which have become real and abiding among the physicians in these states, fostered by such meetings of the different associations.

One development of these union meetings was the suggestion of a tri-state journal, first made by one of the Portland physicians. During the months previous to the first tri-state meeting several conferences were held by representatives of the three associations, when plans and suggestions were evolved for the establishment of such a journal. As a result a recommendation was made to the first meeting that Northwest Medicine be adopted as the common official journal of the three associations. After such action this journal was launched as their official publication, under the supervision of a board of trustees containing three representatives from each association. This brief explanation is offered for the benefit of those readers who may not be aware of the relationship existing between this journal and the state associations.

A GREAT A. M. A. CONVENTION.

The most surprising feature of the Chicago Convention was the attendance, 5553 being registered. It seemed probable, with so large a percentage of the profession in the service and those at home carrying a double load, that the attendance would be very light, but the registration was the largest in ten years. This was partly due to its being held in Chicago near the center of population and also to the fact that the medical department of the army encouraged all officials to attend who could possibly be spared.

It was in every respect a war meeting. The great stage of the Auditorium theater, where the opening session was held, was a picture in two colors, the central portion a solid brown with hundreds of men in the uniform of the army, flanked on each side by the navy blue. The great majority of papers read touched on some point relating to the war. Even in the section on children's diseases one whole day was chiefly devoted to a discussion of the great child welfare campaign which has been undertaken largely as a part of the war program. It seems probable that a reasonable effort would reduce the preventable deaths in infancy and early childhood each year by 100,000. This is the goal which those interested have set for themselves. The value of these future citizens has been emphasized by the war. In England during the past three years the broadest and most thorogoing campaign probably ever instituted has been carried out. Last year 600,000 of the children born in the British Isles were visited by infant and welfare workers. The result has been a reduction by 15 to 30 per cent. of the infant death rate.

The section meetings of the second day were given up and the convention attended two great meetings, one devoting the day to a discussion of the program for reconstruction and rehabilitation of the disabled soldier, the other to the physical examinations under the selective service.

The medical military meeting was perhaps the most notable and inspiring of all. This was held in the Medical Temple and 6,000 responded with tremendous outbursts of enthusiasm, as President Bevan introduced the distinguished foreign visitors and General Gorgas and Admiral Braisted of our own forces. Sir James Mackenzie and Sir Arbuthnot Lane represented England, Col. Herbert Bruce, Canada, M. Justin Godart and Major Rist, France, Capt. Sand, Belgium. Each aroused the great audience with stirring addresses.

One was particularly impressed with the great opportunity for progress in our knowledge of the communicable diseases offered by the war. One morning's program in the section on Preventive Medicine and Public Health contained papers on pneumonia prevention, by Rufus Cole, control of meningitis, by Simon Flexner, measles, mumps and control of venereal diseases by almost equally well known authorities. The reports and discussions of men who have had the opportunity to study these diseases in series running into the thousands of cases with the best of laboratory facilities at hand, the powerful stimulus of association with the brilliant minds gathered in our cantonments and medical service and the unequaled field for testing preventive measures under ideal conditions for control should combine to bring as striking an advance as any achieved by our military surgeons.

The section meetings were very well attended throughout the session. About 225 registered in the pediatrics section but more than twice that number attended during the reading of the papers, even on the last day. The commercial exhibit impressed one as being in crowded quarters and not nearly as good as in former years. The scientific exhibit was not large but contained considerable of importance. Chicago managed the convention well, furnished good hotel accommodations for all, excellent weather and a warm hospitality which gave all visitors a pleasant memory of that wonderful city. J. I. D.

IMPORTANCE OF COMMUNICABLE DISEASE REPORTS.

It is a common experience of State Boards of Health to struggle with the medical profession of their respective states in the endeavor to induce them to report cases of communicable diseases occurring in practice. There is practically no difficulty in this respect in dealing with cases of smallpox, scarlet fever, diphtheria and typhoid, but the average practitioner seems to consider that his privileges as a free American sitizen are encroached upon, when he is required to report what are considered childhood diseases, such as mumps, whooping cough, measles, German measles and chickenpox. Every physician is well aware that these diseases of childhood when occurring in an adult may be associated with disaster. The truth of this statement has never been so apparent as during these days of war. Both complications following these diseases and the enforced idleness of large bodies of men are of daily occurrence in the army cantonments, owing to failure to report communicable diseases by the civil practitioners. The following is an instance in point. A draft soldier ordered to the cantonment went from his home, where a young sister was sick with measles which case had not been reported to the board of health. Six days later he was taken ill with measles, necessitating a two weeks' quarantine of one hundred and twenty-five men in barracks. Had the original case of measles been reported, the city board of health would have made note of the other members of the family and informed the army doctors that this soldier had been exposed to the disease and his individual quarantine would have prevented the enforced idleness and consequent expense to the government resulting from the quarantine of this large body of soldiers.

A more serious consequence of this neglect on the part of the civil doctors is seen in the complications among soldiers, following many cases of these so-called childhood diseases. A very large proportion of cases of pneumonia in the cantonments have started as complications of measles and scarlet fever. It has generally been considered that empyema is a sequence of pneumonia. Bacteriologic examinations of these cases, however, show the pneumococcus in only a portion of them, many being developed from the infective organisms of measles and scarlet fever. These facts serve to demonstrate that the reporting of communicable diseases by the doctors in civil life is a real war measure. Failure to do so, with consequent complications of the diseases and losses by enforced quarantine, is a substantial aid to the enemy. Therefore every patriotic physician who reads these lines will conscientiously report such cases to his local board of health.

ONE PROBABLE ORIGIN OF FALSE RUMORS AGAINST PHYSICIANS IN THE SERVICE.

From time to time rumors have been circulated that this, that or the other medical officer of the army or navy has been or is about to be courtmartialed, interned, or even hanged or shot. In one case such a rumor, having been circulated for a number of days, was followed by an authentic newspaper report that the officer, about whom these lies were being told, had been promoted to a majority. In another case grave charges were circulated about a widely known Pacific Northwest doctor who was with his regiment in France and who at the moment was receiving flattering consideration from his colonel. Needless to state, the rumors were false, unwarranted and unkind to a degree and could only result in harm.

Among rumors heard have been that serums and vaccines have been tampered with and that certain officers spread disease in this way. It seems quite probable that such reports originated, especially during the earlier part of the war, as a result of administering various immunizing serums such as antityphoid. As is well known, reactions occasionally follow immunizing treatment and, when a whole regiment receives injections, within a few days it is inevitable that a number will be made sick, some of whom are certain to complain to relatives who, without understanding what has been done, will in turn spread reports which are based upon ignorance of the nature and purpose of the treatments, such reports being assiduously circulated not only by the laity but in many instances by physicians. Rumors of disloyalty and adverse criticisms in general are becoming less and less frequent, for most of those circulated in the past have fallen of their own weight. But physicians should bear in mind the ease with which such rumors originate and the apparent basis for them. They will be the better able to combat and repudiate them and thus not only minimize their evil consequences but render a service to the brother who is being maligned.

ARE YOU NEGLECTING YOUR DUTY?

Attention, physicians of the Northwest! Have you written to any of your professional brethren "over there" or for that matter "over here," this latter phrase meaning anywhere in the United States, save home. If you have not so written you have neglected your duty. When you have a spare moment, get busy, compile a letter telling what is going on in your town, in your county, in your state. A man two to six thousand miles from home will appreciate it. Tell him the inside things, the little items that do not appear in the public press. Make him understand that, if you cannot be with him in body, you are with him in spirit. Cheer him up and encourage him. All too frequently he is criticized and denounced for imaginary misdeeds. Make him understand that no one with any sense believes anything save good of him. If he has the courage, the "guts" to use an Anglo-Saxon word that as a war word has again come into widespread usage, to put on a uniform and to offer his life for the benefit of us all, he deserves to be kept posted in regard to his home town. His family will probably keep him informed about themselves, but he will crave information about his brethren and their work, information which will usually be passed up by the family as of no interest. Those who cannot go to the front can render a real service and send happiness in this way.

What is true of the men in the trenches is equally true of the men in the encampments. Send them home news, talk or rather write "shop" to them. In addition to performing a good act you will achieve the reward of virtue, for you may be sure of a breezy letter in reply that will in most instances make you wish that you too could share in the duties and dangers of the field. Get out your fountain pen, dust off the old typewriter, get busy, and cheer up some one who is fighting for you. Write him, cheer him up and make him know you are thinking of him. And then do it all over again with some other fellow.

In this connection we repeat a former request for accurate addresses to which Northwest Medicine may be forwarded, especially of officers overseas. With this information the journal, sent each month, will help to form a connecting link with home. It is necessary to have the name of regiment and division in order that it may be properly directed.

MEDICAL NOTES

Additional Enlistments. The list of Utah physicians is here presented who have enlisted in army service. These names have not as yet been publishd in this journal.

UTAH.

Adams, H. G., Ogden
Alexander, R. J., Salt Lake City.
Allen, D. K., Salt Lake City.
Ashley, R. W., Salt Lake City.
Baldwin, S. C., Salt Lake City.
Bartlett, F. K., Ogden.
Beal, D. O., Ephraim
Beer, Sr., W. F., Salt Lake City.
Benedict, C. M., Salt Lake City.
Bird, A. A., Magna.
Black, B. W., Salt Lake City.
Brain, C. E., Salt Lake City.
Brown, W. R., Ogden.
Browning, W. J., Roosevelt.
Chamberlain, E. F., Price
Christopherson, Willard, Salt Lake City.
Clark, F. G., Ogden.
Clarke, G. W., Springville.
Cloward, R. E., Price.
Cook, J. O., Sunnyside.
Crismon, K. A., Salt Lake City.
Cruikshank, G. H., Vernal.
Davis, G. Von Pultinger, Salt Lake City.
Davis, G. F., Ogden.
Day, J. E., Garland.
Dumke, E. R., Ogden.
Dunn, Frederick, Springville.
Emery, G. C., Holliday.
Evans, J. O., Salt Lake City.
Ewing, W. B., Salt Lake City.
Field, G. J., Salt Lake City.
Fisher, R. W., Salt Lake City.
Flood, T. A., Salt Lake City.
Galligan, J. J., Salt Lake City.
Gardner, C. S., Kaysville.
Graham, J. M., Fruita.
Green, G. W., Vernal.
Hampton, R. R., Salt Lake City.
Hanks, G. W., Lehi.
Heath, C. J., Marysvale.
Henneberger, C. E., Bingham Canyon.
Humphrey, I. K., Salt Lake City.
Jansen, F. I., Salt Lake City.
Jellison, R. T., Salt Lake City.
Kanzler, Reinhold, Ogden.
Knott, A. D., Murray
Marshall, H. L., Salt Lake City.
Mayo, H. N., Salt Lake City.
Mayo, W. B., Salt Lake City.
McBride, G. E., Magna.
McCune, R. A., Ogden.
Merrill, R. T., Smithfield.
Nyvall, C. A., Salt Lake City.
Peck, J. H., Ibapah.
Potter, L. C., Provo.
Preston, W. B., Salt Lake City.
Pugmire, L. R., Ogden.
Rich, L. F., Ogden.
Rich, H. E., Vernal.
Richards, H. Y., Salt Lake City.
Roberts, G. F., Salt Lake City.
Rush, W. A., Logan.
Sandberg, C. L., Salt Lake City.
Scott, H. S., Salt Lake City.
Sharp, J. F., Salt Lake City.
Spangler, H. B., Murray.
Sprague, H. B., Salt Lake City.
Stevenson, T. W., Salt Lake City.
Stewart, L. D., Payson.
Stigall, C. G., Salt Lake City.
Taylor, F. W., Provo.
Tyree, F. C., Salt Lake City.
Van Scoyoe, Guy, Salt Lake City.
Wardleigh, C. E., Ogden.
Whalen, W. E., Ogden.
Wickert, H. T., Huntsville.
Woolsey, R. T., Salt Lake City.

The following names have been received since our last issue of physicians who have enlisted for war service, which have not yet been published in this journal:

OREGON.

Butler, F. E., Hot Lake.
Chisholm, W. P., Gold Hill.
Hart, F. C., Portland.
McCollom, J. W., Portland.
McCuskey, C. J., Portland.
Milnor, G. C.. Portland.
Kinney, K. W., Astoria.
Parpola, Janfred, Astoria.
Stearns, R. W., Medford.
Wheeler, C. E., Klamath Falls.

U. S. NAVY.

(Class of 1918, University of Oregon.)

Clancy, F. J.
Darby, J. J.
Farrion, J. B.
Fortmiller, G. E.
Gaston, I. E.
Ghormley, J. C.
Jewell, J. D.
Landis, R. P.
Montgomery, G. W.
Smalley, R. B.
Steinmetz, E. P.
Strong, H. L.
Smart, D. S.
Warner, D. H.
White, R. F.
Young, R. G.

WASHINGTON.

Benedict, C. C., Seattle.
Fleming, B. E., McCreary.
Harris, J. L., Pullman.
Hanber, C. A., Chewelah.
Keslina, O. G., Arlington.
Mattice, A. F., Seattle.
McKibben, J. A., Colfax.
Montgomery, C. E., Walla Walla.
Nynall, Y. J., Seattle.
Palmer, W. G., Seattle.
Pasco, James, Tacoma.

U. S. NAVY.

Murphy, Thomas, Oaksdale.

CANADIAN ARMY.

Locke, J. A., Index.

IDAHO.

Mowery, Herbert, Wallace.
Young, J. R., Pocatello.

WASHINGTON.

Expiration of Medical Contracts. The first of last month forty-seven medical aid contracts of the Industrial Insurance Commission expired, affecting more than four thousand men employed at industries. It was stated that a large number of these contracts would not be renewed. There seems to have been friction between the workmen, the industrial plants and the contracting medical attendants, all of which indicates an unsettled and unsatisfactory condition in the industrial insurance situation.

German Measles to Be Quarantined. During the epidemics of German measles in various parts of the city during recent months, the question of its quarantine has often arisen. In order to correct continued uncertainty in the matter, the State Board of Health ruled that fourteen days of quarantine should be maintained, in accordance with the state law.

Resigns from Office. Dr. W. M. Van Patten, recently health officer of Walla Walla, has resigned his office. He would not assume the responsibility of the health of the citizens of the city when it was proposed to change the source of water supply to a point three miles farther down the stream from which it has been obtained. Bacteriologic tests at the lower location have showed contamination.

New Detention Hospital Open. The new detention hospital at Tacoma for women afflicted with venereal diseases was opened last month. It is provided with all the necessary equipment for the treatment of this class of patients.

Epidemic of La Grippe. The health officer of Hoquiam reported last month an epidemic of this disease. It was stated that 200 cases had been reported, some of which were serious.

Physical Examination for Restaurant and Hotel Workers. Spokane has instituted a physical examination of all people preparing and serving food in the city, under the new campaign for a clean city. It was estimated that approximately 800 men and women will be affected by such examination.

New Hospital Completed. A new hospital has been opened at Republic. It is a one story and basement structure, built of concrete and brick.

Changes in Appointments. Dr. Hugh DeVallin, in charge of the Marine Hospital at Port Townsend for the past year, has been transferred to Seattle. Dr. Emil Krulish, who has been connected with the Seattle office for some time, will be placed in charge of the Port Townsend hospital.

Army Promotions. Drs. R. W. Perry, W. H. Corson and G. W. Swift, of Seattle, have been advanced from the grade of Captain to Major.

A Doctor for Congress. Dr. J. W. Summers, of Walla Walla, has announced his candidacy for the Republican nomination for Congress, to succeed Congressman W. L. LaFollette. The Doctor says he is after the Congressman's scalp and proposes to get it.

City Without a Doctor Is Supplied. Naches was a short time ago seeking a doctor, when its only medical man departed. Dr. E. A. Melton, from Arco, Idaho, has moved to this city.

Dr. Maud Parker, of Seattle, who has been for some time in California and has spent time in eastern clinics, has returned to Seattle where she will resume the practice of medicine.

Dr. H. M. Page, of Cathlamet, has moved to Portland, Ore.

OREGON.

Physician in Knights of Columbus Work. Dr. Harry Medernack, who has practiced in Portland for a number of years, has given up his medical work and become a secretary of the Knights of Columbus at Camp Lewis.

Lady Physician in Army Work. Dr. Edna Sherall, for several years connected with the Health Bureau of Portland, has accepted a position in the War Department. She has left the city for preliminary training at the Government Hospital at Rochester, Minn. Some time ago she was commissioned Second Lieutenant.

Appointed Interne. Dr. U. C. Coe, who has practiced for several years at Bend, has been appointed interne at the New York Postgraduate Hospital. He has recently been taking postgraduate work in the East.

Seeks Location for Hospital. Dr. A. C. Seeley, of Roseburg, president of the State Board of Health, has gone East to secure for Oregon one of the hospitals to be located for the care of soldiers contracting tuberculosis in the service. He will present to the National authorities convincing evidence of the advantages of the climate in western Oregon for the treatment and cure of tuberculosis. The Government proposes to establish seven such hospitals, each one having a capacity for the treatment of one thousand patients.

Army Promotions. Dr. F. H. Dammasch, of

Portland, who has been in army service for a year, has recently been promoted to a majority. Hitherto he has had the rank of Lieutenant and thus skips the rank of Captain. Dr. Ira Bartle, of Portland, and Umpqua, has been promoted from the rank of Captain for that of Major.

New Medical Examiner. Dr. Frank E. Smith, of Portland, has been appointed by Governor Withycombe as a member of the State Board of Medical Examiners, to succeed Dr. C. T. Chamberlain whose term has expired.

Enlargement of Detention Home. The women's detention home, under construction at Troutdale, will be built on larger plans than at first contemplated. It is proposed to construct it on the Army plan of hospitals and barracks. It has been agreed that Portland will care for women from other parts of the State, to be paid for by the State Board of Health.

Lectures on the Children of France. Dr. E. J. Labbe, of Portland, has delivered interesting and instructive addresses before audiences in the cities of Washington and Oregon during the past month, descriptive of his work in France under the American Red Cross. He was connected with a very important and useful work for the benefit of children repatriated from behind the German lines.

Wholesale Enlistments in the Navy. A remarkable and unprecedented event in connection with the graduating class in the University of Oregon Medical School last month was the enlistment of almost the whole class in the United States Navy. Such patriotic action was taken by eighteen of the twenty-one members of that class.

OBITUARIES.

Dr. W. L. Parker, of Baker, Ore., died at the Good Samaritan Hospital, Portland, May 31, after an illness of several weeks, resulting primarily from pneumonia. He was 49 years of age, born in Ohio. As a young man he moved to Oregon as a civil engineer. Later he graduated from the Medical Department of the University of Oregon and about twenty years ago settled in Baker. He was a man of prominence who identified himself with civic affairs, beside attending to medical practice.

Dr. G. E. Anderson, of North Bend, Ore., died June 10, from septicemia of short duration, resulting from a scratch on the thumb. He had been married about two weeks. He was born in Nebraska, in 1881, and came West with his parents about twenty-five years ago. For twenty years he lived at Medford. For three years he studied at the Medical Department at the University of Oregon and graduated at Barnes Medical College at St. Louis, in 1911. He practiced for six years in Portland and a year ago moved to North Bend, where he has been health officer during the past year. He had many friends and an enviable reputation as a physician and citizen.

Dr. H. C. Parker, of Twisp, Wash., died at the Soldiers Home at Orting, May 24. He was born in Indiana, in 1841, and graduated from the University of Michigan. He practiced for a number of years in Kansas and later taught school for thirty years. He was a veteran of the Civil War and for the past sixteen years has lived at the Soldiers Home at Orting. He was well known in the Methow Valley, where he had many friends.

Dr. John Harris, of Eugene, died early last month, probably as the result of a fall in Hendricks Park. He had been missing for several days and the body was found by searching party June 7. He had been in ill health for about ten years. He was 64 years of age, born in Indiana and came to Oregon in 1865. He had practiced in Eugene for about 30 years.

Dr. A. W. Rhea died at Tacoma, Wash., May 22, after an illness of several months. He was born in Tennessee, in 1838. He served as a surgeon thru the Civil War. He was a prominent practitioner in his native city for many years. In 1892 he moved to Washington, living during recent years in Seattle and Tacoma.

Dr. A. H. Shoor died at Salem, Ore., May 29, from diabetes. He was 34 years of age and had practiced medicine for a number of years, his residence being near Kansas City, Mo.

Dr. W. L. Miller, formerly of Pendleton, Ore., died in France, May 28, while in war service. Before studying medicine he was a druggist in Salem. He graduated from the Medical Department of the University of Oregon while living at Pendleton. Later he moved to Michigan, where he was practicing at the time of his enlistment in the Army.

REPORTS OF SOCIETY MEETINGS

KING COUNTY MEDICAL SOCIETY.

Pres., H. E. Allen, M. D.; Sec., L. H. Maxson, M. D.

The regular meeting of the King County Medical Society was held May 10 at the Metropolitan Club, Seattle, Wash., being called to order at 8:20 p. m. by Dr. R. D. Forbes in the chair. Minutes of the previous meeting were presented.

Clinical Cases

Dr. F. L. Horsfall presented a spleen and kidney ruptured by fall from a scaffold. The kidney rupture was intracapsular, with the hemorrhage spontaneously checked.

He exhibited radiograms of dislocated and fractured semilunar bones and discussed the nature and frequency of the injury.

He gave the history of a hip injury shown by radiograms to be a separation of the sacroiliac synchondrosis.

A radiogram was presented showing a fracture of squamous and mastoid portions of the right temperal bone. Radiograms were shown of tuberculosis of the chest.

In discussion Dr. Lazalle asked why exploratory operation had not been advised in the ruptured kidney case. Dr. Canfield gave history of similar cases. Dr. Maud Parker said that persistent subnormal temperature is significant in suspected tuberculosis. Dr. Bourns said that fractured wrist bones are quite common. Interpretation is not always easy and a stereoscopic view often necessary.

PAPER

Vincent's Angina by Dr. W. R. Jones. Ptyalism is not due to the administration of mercury but the presence of a specific organism of the form of spirochete and fusiform bacillus. The mercury simply produces a lowered resistance in the mouth. The organism normally present in the mouth is an obligate anaerobe, characterized by its polymorphism and its staining characteristics.

The paper was discussed by Drs. Purman, Palmer and Dudley.

PIERCE COUNTY MEDICAL SOCIETY.

Pres., S. W. Mowers, M. D.; Sec., R. A. Gove, M. D.

The regular meeting of the Pierce County Medical Society was held at Tacoma, Wash., June 11, 1918, being called to order by President S. W. Mowers, at 8:30 p. m. The minutes of the last meeting were read and approved. Dr. I. H. Robb was elected to membership.

On motion of Dr. Gove the president, vice-president and Dr. J. B. McNerthney were appointed a committee to select representatives to act as a hospital committee. Dr. Janes reported that he had appeared before the Rotary Club, asking that they take up the matter of securing funds to assist the Sisters of St. Joseph's Hospital in finishing the hospital.

Dr. Houda presented the case of splenomegaly which he showed at the last meeting. The case showed some improvement.

Dr. J. B. McNerthney showed a specimen of ectopic pregnancy, and which he had operated one month ago. After she passed her 280th day of pregnancy, labor did not occur. Apparently the fetus died. At the end of the 14th month, she came under the observation of Dr. McNerthney, who on examination thought it probably was a case of ovarian cyst. On operation he found a large quantity of amniotic fluid in the abdominal cavity. The placenta was adherent to all abdominal organs. He removed seven pounds of placental material.

The president stated he had a similar case. He agreed with Dr. McNerthney that only a small amount of the placental tissue which was easily removable should be removed. Dr. Houda reported a similar case he had seen in Chicago several years ago.

The president stated that this would be the last meeting of the society until later in the summer. Dr. Janes moved that the trustees be empowered to elect delegates to fill any vacancies to represent the society at the annual meeting in Seattle in July.

BOOK REVIEWS

Edited by Kenelm Winslow, M. D.

Interpretations of Dental and Maxillary Roentgenograms. By Robert H. Ivy, M. D., D. D. S., Major Medical Reserve Corps, United States Army, etc. 146 pp. 259 Illustrations. Price, $2.50. C. V. Mosby Company, St. Louis, 1918.

This book comes into this comparatively new field at an opportune time. So much difference exists in the viewpoint regarding the interpretation of dental radiograms that the average practitioner, whether dental or medical, has had a hard time to determine what course is best to pursue. The book is divided into two parts. The first contains six chapters treating of the anatomy of the teeth and jaws, the general pathology of this region, correlation of clinical findings with roentgenographic examination, prognosis and treatment, with a chapter on technic. In the second part there is a chapter on interpretation, in addition to which there are many reproductions of roentgenograms of teeth and jaws.

This work is the most definite statement in regard to diagnosis of dental radiograms that the reviewer has had opportunity to read and should prove of very distinct value to both dentists and general practitioners, but more especially to the former. The author takes a fairly conservative view which is not, however, narrow in regard to the interpretation of roentgenograms. His breadth of view is shown by the statement that, "The diagnosis of periapical pathologic conditions about the teeth depends upon the history, the symptoms, the clinical examination and the roentgen examination." If the dental and medical professions would both accept this viewpoint of the diagnosis of dental radiograms, we would soon see the two working together without friction in the handling of patients where oral infections are involved. We most heartily recommend the book to members of both professions. BOURNS.

Oral Sepsis in Its Relationship to Systemic Disease. By William W. Duke, M. D., Ph.B., Professor of Experimental Medicine in the University of Kansas School of Medicine, etc. 124 pp. 170 Illustrations. Price, $2.50. C. V. Mosby Company, St. Louis, Mo., 1918.

To one who was not kept closely in touch with the rapid changes that have been taking place in some of our conceptions of the cause of disease the author of this work may appear to be over enthusiastic. There is nothing cited here, however, which does not frequently come under the observation of those who have followed the development of this line of work. The author takes up the consideration of his subject from a broad viewpoint and emphasizes the necessity of a careful clinical history and examination in every case, as well as the treatment of nonrelated infection. The chapter headings give a good idea of the scope of the work. Chapter II treats of pyorrhea alveolaris, chapter III of alveolar abscess and chapter IV, naturally of metastatic abscess. Chapter V deals with nonrelated infection as influenced by oral sepsis, chapter VI with the toxic effect of oral sepsis and chapter VII with headache as related to oral sepsis. Frequent citations are made from recent literature on the subject and an extensive bibliography is given. As the book is small it can profitably be read by every practitioner of either medicine or dentistry. The subject is of such great importance that neglect of it is almost certain to result in some failures in diagnosis which a reasonable familiarity with this little work will do much to avoid. BOURNS.

Scopolomine-Morphine Semi-Narcosis During Labor. By Wm Osborne Greenwood, M. D. (Leeds), B. S. (Lond.) 120 pp. Price, $2. Oxford University Press, London and New York, 1918.

This carefully written monograph by an English obstetrician is the record of a painstaking investigation of the value of this aid to women in labor. He lays great emphasis upon amnesia as a test of the medication, rather than analgesia. Attempts to use enough morphine to relieve the outward manifestation of pain are, he says, the commonest errors in technic, and have been the cause of much unfair condemnation of the method. The blotting out of the memory by scopolomine is the thing to be striven for, and can be attained in a majority of cases. The effect upon the infant—which is the reason given by most men who condemn it—is said to be practically nil, the author having resorted to artificial respiration in but three cases out of a large series. One cannot read a record like this without feeling that there is much value in the method when properly carried out by one who thoroly understands what he is trying to do. To attempt it without such a clear understanding is courting danger for mother and child. MAXSON.

The Third Great Plague. A Discussion of Syphilis for Everyday People. By John H. Stokes, A. B., M. D., Chief of the Section of Dermatology and Syphilology, The Mayo Clinic, Rochester, Minnesota. 12mo of 204 pages, illustrated. Cloth, $1.50 net. W. B. Saunders Company, Philadelphia and London, 1917.

This is a remarkably fine little treatise, couched in plain, everyday language. It is a book that can be read with interest and profit by physician and patient, and ought to be read by both. No single feature or chapter can be selected as better than any other, the good in it being sustained thruout. It embraces many phases of the disease in brief, concise form. There are no unnecessary and tedious repetitions. Any layman of ordinary intelligence can readily understand its contents and be beneficially instructed thereby, especially if he is a patient, and the doctor who reads it will add much useful knowledge to his study of syphilis.

POSKA.

Syphilis and Public Health. By Edward B. Vedder, Lieut.-Colonel, Medical Corps. Published by permission of the Surgeon-General, U. S. A. 315 pp. Price $2.25. Lea & Febiger, Philadelphia and New York. 1918.

This comparatively small volume ranks the author as an authority on the subject, from which much can be learned. It is surprisingly well packed with good, practical information, altogether disproportionate to its size. The immense amount of authentic statistics regarding syphilis will prove invaluable to the general practitioner. The book is written not so much for the laity as for the medical profession, tho the former may extract from it much that is helpful to a wider and more comprehensive study of the disease. It is highly recommended to all doctors. POSKA.

The Diagnosis and Treatment of Venereal Diseases in General Practice. By L. W. Harrison, D. S. O., Lieut.-Colonel R. A. M. C.; Lecturer on Venereal Diseases and Officer in Charge Military Hospital, Rochester Row. 482 pp. Price, $7.50. Oxford University Press, London and New York, 1918.

This work is voluminous, yet for the average practitioner there are many notable omissions which would be of practical value. The book contains much valuable information. The general arrangement of the chapters, division of subjects, etc., however, is not in such convenient form as to make the information easily accessible. This is rather unfortunate, as the really helpful subject matter which the reader seeks, when he does find it, is more than worth while. With some exceptions the illustrations are not of high class order. On the whole, it is not a book the reviewer would advise as indispensable to the general practitioner. POSKA.

The Practice of Pediatrics. By Charles Gilmore Kerley, M. D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital Second edition, revised and reset. Octavo of 913 pages, 136 illustrations. Cloth, $6.50 net. W. B. Saunders Co., Philadelphia and London, 1918.

The first edition of Dr. Kerley's book met with instant and complete success. The author has wisely gone into details and given specific directions for treatment. When the general practitioner consults the work of a specialist he is interested in the pathology, symptomatology and differential diagnosis, but he wishes the most practical advice as to what to do for the case. This Dr. Kerley has always kept in mind. The book is well printed and well illustrated. A chapter on gymnastic therapeutics of 40 pages and another on general therapeutic measures of 32 pages add greatly to the value of the work. It is a complete up-to-date and rational textbook. The medical profession will welcome this second edition as enthusiastically as the first. DURAND.

Medical Service at the Front. By Lieut. Col. John McCombe, C. A. M. C., and Capt. A. F. Menzies, M. C., C. A. M. C. 128 pp. Illustrated. Price,

$1.25. Lea & Febiger, Philadelphia and New York, 1918.

This little book is the account of two Canadian medical officers while serving at the front with the Canadian forces. It is a description of the services followed by medical officers in actual war work. Surgeon-General Fotheringham, in the foreword, says it is hot from hell's gridiron and correct in all its details. There is a description of a division in the frontline, followed by an account of the medical officer's work with the field ambulance in peace, warfare and in battle. It relates the method of field ambulance positions and gives a further description of the medical services from the front trenches to the casualty clearing station. Any medical officer can get a clear idea of his future work in the war by perusing this volume.

SMITH.

Reclaiming the Maimed. A Handbook of Physical Therapy. By R. Tate McKenzie, M. D., Maj. R. A. M. C., Professor of Physical Therapy University of Pennsylvania. 128 pp. Illustrated. Price, $2.00. The Macmillan Co., New York, 1918.

The author states this work is founded on an experience of over a year as medical officer in charge of the "Command Depot," Heaton Park, Manchester, and as inspector of similar institutions of convalescents thruout the British Isles. He gives a detailed description of the various methods used to rehabilitate the maimed and disabled soldiers. There are chapters on medical electricity, faradic current and high frequency, radiant heat and light, hydrotherapy, massage, reeducation. Under the latter heading is described a great variety of apparatus used to relieve stiffened joints and muscles, restoring them to a normal condition. This book is freely illustrated and contains much useful information on these subjects.

SMITH.

Principles of Surgical Nursing. A Guide to Modern Surgical Technic. By Frederick C. Warnshuis, M. D., F. A. C. S., Visiting Surgeon, Butterworth Hospital, Grand Rapids, Michigan; Chief Surgeon, Pere Marquette Railway. Octavo of 277 pages with 255 illustrations. Cloth, $2.50 net. W. B. Saunders Company, Philadelphia and London, 1918.

This book is well worth reading by the physician as well as the nurse. It deals with every phase of nursing. One chapter given to the preparation of a room and its equipment in a private home, with the arrangements of a dining room table to secure a Trendelenburg position, is very clever. This book would be a benefit to every nurse as a vast amount of practical material; also, a chapter on anesthesia, giving the death rate following the administration of every anesthetic. The book ends with the technic of thyroidectomy, including eleven illustrations.

MASON.

Burns and Their Treatment. Including Dermatitis from High Explosives. By J. M. H. Macleod, M. A., M. D., F. R. C. P., Physician for diseases of the skin, Charing Cross Hospital, Royal Flying Corps Hospitals, etc. Cloth, $2.00 net. Oxford University Press, New York and London, 1918.

This excellent work presents in a concise form

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the many most modern methods of treating burns. The classification is that of Dupuytren's, which is very simple when one understands the extent of each degree. The chapter dealing with dermatitis from high explosives is most interesting at this time. It is dedicated to our heroic airmen, who in spite of crashes and burns still carry on.

MASON.

Differential Diagnosis. Presented Through an Analysis of 317 cases. By Richard C. Cabot, M. D., Assistant Professor of Clinical Medicine, Harvard University Medical School, Volume 2, Second Edition. Octavo of 709 pages, 254 illustrations. Cloth, $6.00 net. W. B. Saunders Company, Philadelphia and London, 1918.

Dr. Cabot's well known work on differential diagnosis is presented in a new edition with some new cases, illustrating vertigo and shell shock, as well as comments on certain other common symptoms. His presentation of cases is so excellent that one cannot read his case histories without getting some new ideas regarding diagnosis. The autopsy finding following many of his case histories are unusually enlightening.

BLACKFORD.

The Medical Clinics of North America. Vol. I, No. 4, Octavo of 402 pages. Vol. I, No. 5, Chicago Number, Octavo of 242 pages. Published bimonthly. Price per year: Paper, $10; Cloth, $14. W. B. Saunders Co., Philadelphia and London, 1918.

These two volumes contain an immense amount of valuable medical material. No. 4, the Boston number, reports clinics by the most distinguished physicians of that city. Christian presents in a graphic manner a series of discussions on complete heart-block, partial heart-block with Stokes-Adams syndrome, digitalis heart-block in auricular fibrillation, chronic myocarditis, which are well worth the while of every student of heart disease. George, Leonard and O'Brien present a paper on the roentgen diagnosis of disease of the upper right abdominal quadrant. Cuts of roentgenograms vividly portray groups of gallstones. They state that with proper technic gallstones can be demonstrated by the x-ray whenever present, those containing calcium with ease, soft stones with care.

The Chicago number is full of valuable papers. A. R. Elliott discusses syphilis of the aorta, illustrated by numerous x-ray pictures. He says that the vascular lesions of syphilis constitute the most important changes observed in this disease, and clearly illustrates this statement. These volumes constitute a clinic of up-to-date medicine that is unexcelled.

SMITH.

International Clinics, Vol. 1, 28th Series. Price, $2.50. J. B. Lippincott, Philadelphia and London, 1918.

This volume contains its usual variety of instructive articles, written by men of authority in various cities of this country, as well as from abroad. The first third of the volume is devoted to clinics in various hospitals. Under medicine, neurology, public health and surgery are papers on subjects of interest. A very valuable feature is the general review of medicine for 1917 which briefly represents the most striking advances during the year. The book is well worth reading by any physician.

SMITH.

Chronic Myocarditis.—H. A. Christian, Boston (Journal A. M. A., June 22, 1918), says, notwithstanding the interest in the functional disturbances of the heart, there is still a marked tendency among physicians to attribute too much importance to valvular disease. There is rarely a clear description given in the textbooks of a certain common type of cardiac disorder in which fault is primarily in the heart muscle and the valves themselves are normal. Textbooks of pathology also fail to lay stress on this condition, as there is often lacking any lesion to be described in objective terms. A possible reason for this is the merging of this condition with cases of organic mitral lesion under the general term of "mitral insufficiency." This results from the fact that with myocardial disturbance, there is usually a mitral regurgitation from stretching of the mitral orifice and such cases usually have a systolic murmur at the mitral area. Chronic myocarditis is not an exact designation of the condition, but the etiologic correctness of a long used term is unimportant. The term covers a group of cases where the heart fails to function correctly, and the signs are those of insufficiency and decompensation. The morbid condition when found at necropsy, may be an increase in interstitial connective tissue or muscular degeneration or possible sclerosis of coronary arteries, all of these, however, may be lacking. Cabot has said that in 52 per cent. of the cases diagnosed as chronic myocarditis and coming to necropsy no such lesion is found, and in only 22 per cent. are the pathologic and clinical diagnoses in agreement. In his own experience in 1917, at the Peter Bent Brigham Hospital, out of 230 chronic cases, 120 were positively diagnosed as chronic myocarditis, and five, questionably so, while 105 were regarded as cases of valvular trouble. In 1916, the figures were proportionately the same, and in other years, also, more patients were seen suffering from cardiac insufficiency without, rather than with, signs of organic disease. The age incidence of these myocardial patients is given in a table showing its increase as age advances to sixty years, and then its rather rapid decrease in frequency. As regards etiology, the relation of rheumatism and of syphilis to myocarditis is of interest. Out of a total of 407 patients, treated in the last five years, 74 males and 34 females had had antecedent rheumatism, and as regards syphilis, using the Wassermann reaction as a test, it was found positive in 35 and negative in 334. Thirty-eight patients did not receive the test. These were in a class of patients, in whom syphilis is supposed to be common, but the figures seem to indicate that it plays but a small role in the etiology of this group of cardiac diseases. This seems surprising when one considers the large part vascular lesions play in the syphilitic process. Alcohol has been suggested as a cause, and slightly more than half of the patients admitted using it. In a considerable percentage of these, the habit seemed to be tolerably chronic, and if accepted as a causative factor, explains a little over a third of the cases. As to its real significance in the group Christian feels doubtful.

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ORIGINAL CONTRIBUTIONS

THE NAVAL ATTITUDE TOWARD THE VENEREAL DISEASE PROBLEM.*

By LIEUT. COM. CLARENCE F. ELY,
Medical Inspector U. S. N., Puget Sound Navy Yard.
BREMERTON, WASH.

It is unnecessary to dilate upon the complexity of this problem, intricately involved as it is with the very foundation of life and social intercourse, before a body of this nature. It seems a waste of time to discuss these things which we all know and admit. Rather should we endeavor to adopt a working plan, having for its object reduction of venereal disease to its greatest possible minimum, first, as a war measure, as I believe this is the best means of securing action, and, second, for the influence our work will have during the period of reconstruction following the war and for all time to come.

It is impossible to discuss venereal disease in its broadest sense from the standpoint of military and naval services alone, as the life of the sailor and soldier must be and is influenced by the civilian community in which he happens to be. I will, however, endeavor to portray for you briefly the Naval viewpoint and offer later what I believe to be the solution.

At the close of the civil war, our Navy, with its ironclads, manned by matured fighting men, was without an equal. Those in power did not see fit, however, to maintain this excellent standard, and for a period of twenty years subsequent to this war the Navy was permitted to stagnate. Ships became obsolete, were scrapped without being replaced and the traditional man-of-warsman soon dropped out of sight.

With the advent of the U. S. S. Dolphin, which was commissioned on December 10, 1885, a new Naval era was inaugurated. This vessel, together with the Chicago, Boston, and Atlanta, made up the famous White Squadron, with which, I am sure, you are all familiar. The coming of these new ships and their subsequent development into the latter day first class battleship, with all the intricacies of modern naval ordnance, motive power and tactics, causing them to differ so materially from the old style man-of-war, created a demand for a new type of bluejacket.

Alert, clean limbed, quick to learn, and versatile to a degree that is astonishing to those who discover for the first time the varied nature of his duties, today the enlisted man of the United States Navy is much younger than his brother of civil war times. By far the greater part of our enlisted personnel is under twenty-five years of age. When the immaturity and youth of this personnel is considered, and that many of them are absolutely ignorant of the principles of sex hygiene, with particular reference to the varieties and manifestations of venereal disease and how it is contracted, and the further fact that they have given themselves voluntarily for Government service, we believe that our responsibility in this connection is tremendous and that our vigilance should be untiring. Coming from the best of homes, where they have been carefully surrounded with moral and physical safeguards, we feel that these young men are especially entrusted to our care, and that their moral and physical welfare is of the utmost importance. Parents and friends have a right to expect, from this great branch of the Government service, every safeguard and incentive that will protect their sons from this evil.

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* Read before Fourth Tri-State Meeting of Medical Associations of Oregon, Washington and Idaho, Seattle, Wash., July 17-18, 1918.

I wish to review the various procedures at present in vogue in the Navy for the protection of its personnel from venereal contamination, and the care which they receive when once infected.

During the past nine years the Medical Corps of the United States Navy has given this matter precedence over all other questions of prophylaxis. This interest was early transmitted to the officers of the line and other staff corps, until today unanimity of effort against venereal disease is the watchword.

Our procedures have been as follows: First, prophylaxis, embracing educational or moral prophylaxis, and medical prophylaxis; second, restriction of infectives until free from disease.

Moral prophylaxis. Every effort is made to instruct the personnel regarding methods of sexual infection, by means of lectures, pamphlets and posters, so that there can be no excuse for exposure due to ignorance. The fact that continence is not inconsistent with the best manhood, and that the exercise of the sexual function is not necessary for the preservation of health is explained and reiterated. The daily routine of drills and athletics, together with the frequent entertainments, held in the various auditoriums, which will be found at all training camps, are very important additional features.

Medical prophylaxis. When the individual, despite the instructions referred to above, voluntarily exposes himself to the dangers of illicit intercourse, a careful system of prophylactic treatment is afforded. This is compulsory. Men who have violated the admonitons of their medical officers and who have exposed themselves to infection and do not embrace the opportunity to receive prophylactic treatment at their station or on board their ship, are listed as having contracted venereal disease, if such disease develops, and such man is reported to his Commanding Officer for disciplinary action. Bi-monthly inspections are made without notice for the purpose of discovering cases of this kind.

Men under treatment for venereal disease are not permitted to go on liberty, except in case of most urgent business or imperative personal necessity. This must be demonstrated to the satisfaction of the Commanding Officer. In other words, as soon as a man develops venereal disease in the service, he is at once placed in restraint, in order that his infection shall be kept out of the civil communities.

Whenever an officer or enlisted man of the Navy or Marine Corps, in active service, is absent from duty on account of sickness or disease resulting from his own intemperate use of drugs, alcohol, or his own misconduct, the medical officer having cognizance of the case shall prepare and forward to the Commanding Officer an admission misconduct report, and upon the individual being discharged to duty a discharge misconduct report. All pay is checked against the individual for this period and, in case of an enlisted man who has entered the service for a definite period, such time lost must be made up before his enlistment expires. All venereal cases not requiring hospital treatment are cared for at the detention camp.

Three prophylactic stations in Seattle and Bremerton, at which medical prophylaxis is given, are in commission. The locations of these stations are made known to the men and those who, notwithstanding admonition and advice insist on exposing themselves, are expected to avail themselves of this treatment. Records are kept and from these records valuable data have been obtained which has been submitted to the police authorities for such action as they may see fit to take.

There are some observers who believe that prophylactic stations should not form a part of our defense against venereal disease in the service. They claim that a knowledge of their presence invites exposure with all its pernicious results. From a study of the records which have been kept in this district for fifteen months, we are in a position to refute these assertions. Our observations are that not only is there a decline in the disease incidence following our campaign of education, but also of exposures. This will be explained in detail later by Surgeon B. J. Lloyd, U. S. P. H. S.

During the past year conferences were held with the following officials in Washington and Oregon in connection with venereal disease prevention: Mayors of Seattle, Portland, Bremerton, Charleston and Port Orchard; County Commissioners, Kitsap County; City Councils Bremerton, Charleston and Port Orchard; Oregon Social Hygiene Society. Addresses were delivered before;

(a) First convention ever held in the United States for the suppression of vice, called by the Mayor of Seattle and held in that city April 23, 1918.

(b) Meeting of hotelmen called by the Mayor of Seattle in May, 1918.

Notwithstanding the efforts above outlined, the annual statistical report of the Surgeon General (of the United States Navy) for the fiscal year 1917, shows as follows: Venereal disease caused 94 discharges for death or disability, and was responsible for 165,984 sick days. In other words, a loss to the service of 584 men for the full period of this year.

The expense entailed, in connection with this question, is believed worthy of consideration, $19,729.00 being expended for argyrol and protargyrol in one recent year. One single invoice of salvarsan involved an outlay of $17,000.00.

I wish to emphasize as strongly as possible that these diseases are not inherent in the Navy, or in any way incident to life in the service, which makes it particularly reprehensible that such conditions should continue to exist if they can be legitimately controlled. Bearing in mind my brief outline of Navy methods, directed against venereal disease, I submit that the Navy has not been derelict.

What is the civilian population doing? Until the war broke a man in uniform was looked upon, in many communities, as a sort of moral leper. Barred from many so-called first-class hotels, cafes, dance halls and even theatres, it was only natural that, craving society and entertainment, he should gravitate to places of ill repute. Judges have been known to offer convicted criminals a choice between jail and the service. I am reliably informed that only recently a person with high standing suggested that certain zones be defined in the cities and that soldiers and sailors be prohibited from entering these zones, not as a protection to the soldiers and sailors, but to safeguard civilians from infection. It is a great mystery to me how fair-minded, intelligent people can come to such conclusions, if they will but approach this subject with an open mind.

We are all familiar with the various waves of reform which have visited our different communities from time to time, and how the good people, honest in their intentions, got together to form societies and spend the funds which were so liberally forthcoming. Well-meaning ladies and gentlemen have talked themselves hoarse and used up enough energy to defeat the German army, but the prostitute has persisted in the even tenor of her nefarious way unhampered, and venereal disease is still rampant thruout the land.

Time was when a nice girl was apt to be criticized for being seen in company with a sailor man in uniform, rendering it necessary for many of our boys to keep civilian clothes at various Y. M. C. A.'s in our seaport cities. I have often wondered what the critics would think if they knew that three and one-half young men in every hundred in every walk of civil life are infected with one of the three venereal diseases. Thank God that day is past and I wish to give to you medical men gathered here today a message to the fathers and mothers with whom you are in daily contact, and that is that they need not be afraid to have their daughters keep company with our sailor men for, while they are no better than their civilian brothers, should they become infected, they are discovered whether or no and detained until clean.

It is the consensus of opinion of the Medical Officers of the Navy, that venereal disease continues to give a greater damage rate than any other factor. If the United States and its Allies are to win this war, every ounce of available man-power must be used. I have come to the conclusion that for our present purpose the only good Hun is a dead one, but it is going to take a real he-man and not a wasted, diseased specimen to convert him to that desired state.

Estimating the general prevalence of venereal disease at 2½ per cent., and it is larger 3+, just think what it would mean if venereal disease today did not exist. Estimating the Allied forces now engaged with the enemy at 7,000,000, we would have available man-power amounting to 175,000 soldiers, or three Army Corps, healthy men, marching toward the Hun, and not in the direction of the scrap heap.

The further solution of the venereal disease problem rests with the people of the United States and you civilian practitioners must do your part. I believe venereal disease should receive much the same treatment as is accorded smallpox, scarlet fever, diphtheria, cholera or plague. People suffering from these diseases must not be permitted to go and come as they please, and it rests with the private practitioner of medicine and the Health Officer to see that this does not occur, and an enlightened public must get behind the honest doctor and Health Officer, see that they are supported, and run the dishonest doctor and quack out of town.

You are doubtless aware that there is a regulation of the Board of Health of the State of Washington, which by the way has quasi-legislative powers, provided by the constitution of the state, which provides for the reporting of all cases of venereal disease by physicians, and, further, there is in the city of Portland, Ore., at present, a hospital maintained and equipped by the city for the treatment of such persons as may be detained there for this purpose. This hospital is available to all counties in the state of Oregon, providing they defray the expenses of subsistence.

The duty of Health Officer in small towns and counties is usually delegated to some young man just out of medical school, who will work for little or nothing. The salary of three health officers that I have in mind, in a county of this state, a short time ago amounted to $35.00 a month. Think of it. These men, of course, have as their paramount interest the building up of a private practice. Now I know, and every health officer knows, that every time a house is labeled with a communicable disease sign, a potential enemy is apt to be made, which militates against any effort to acquire a private practice. What is the natural outcome? Public health work suffers, of course.

The answer seems to me to be:

First: A whole time Health Officer in all cities and counties, who will receive a decent salary.

Second: Cooperation with these Health Officers by medical men in private practice, to the end that all cases of venereal disease shall be reported by number. It is not necessary or advisable to divulge names, unless individuals resist control.

Third: Observation and intelligent restriction of the movements of infectives, with restraint and incarceration, if necessary, of those who refuse to submit to authorized rules and regulations.

Fourth: Internment of every prostitute found infected until it is demonstrated that she is no longer capable of transmitting her disease.

Fifth: Prosecution, by the civil authorities, of macks and owners of property where prostitution is permitted.

Sixth: Intelligent control or abolition of the liquor traffic.

These procedures should be uniform thruout the United States and will prove worthless, unless supported by public opinion.

I would like to invite the attention of those present to the fact that there is in existence, in the state of Oregon, a body known as the Emergency Board, consisting of the Governor, Secretary of State, State Treasurer, Speaker of the House, President of the Senate, and the Chairman of the Ways and Means Committees of the House and Senate, the function of which, I understand, is to act during the interim between sessions of the State Legislature.

The Board appropriated ten thousand dollars in October, 1917, for emergency work, in connection with the prevention of social diseases in the forces of the United States, and on April 9, 1918, an additional fifteen thousand was turned over to the State Board of Health, for the treatment, care and attention of prostitutes.

The state of Oregon, since 1913, has appropriated fifty-five thousand dollars, in addition to what I have just mentioned, for use by the Oregon Social Hygiene Society in educational work throughout the state.

I would like further to tell you that it was found necessary recently in Kitsap county, in connection with the sanitation of the small towns surrounding the Navy Yard, to ask the county commissioners for five thousand dollars for necessary health work. This was granted. I have not the faintest idea where the commissioners obtained the money, but I do know that they came thru and we are at present spending it.

Restrictive measures such as I have outlined are coming to civilian communities just as sure as prohibition, female suffrage and success of the Allies. In my opinion the states of Washington and Oregon have the opportunity today to inaugurate a movement which will eventually spread thruout the United States. You must appoint for this duty men and women who are whole heartedly interested in the subject, who will face the issue fearlessly and with the determination to see it thru.

Since war was declared I have been more or less intimately associated as Medical Aid to the Commandant 13th Naval District, in connection with sanitation in this district, which comprises the states of Oregon, Washington and Alaska, and portions of Montana and Idaho. In my capacity as Medical Aid I have had occasion to consult at times with various health officers, municipal and state officials and organizations interested in social welfare work, and have been much impressed by the desire to help and the unusual willingness to follow the decision of Government representatives, creating thereby an unprecedented opportunity at this time for well directed effort.

Important as this venereal question has been, particularly in the eyes of the medical profession, it seems to me there never was a time in the history of the world when it should receive more consideration than at present. For fifteen months this country has been waging war to the death with the greatest military nation of all time, a nation which has omitted nothing which might have a possible bearing on the outcome of hostilities. So I tell you today, the time for discussions is past, What we need is action. Get busy without delay, perfect a working organization which will be in a position to cope not only with the venereal problem as it now exists, but will be thereby better able to grapple later with an unprecedented situation in this connection, which I feel will confront us when our fighting men return from abroad.

RELATION OF THE MILITARY TO VENEREAL PROBLEMS.*

By Major Irvy L. McGlasson, M. R. C.

CAMP LEWIS, WASH.
Camp Sanitary Inspector.

From the first draft of the National Army there were found 445,000 syphilitics. It is estimated that in each state there are five times as many men who have gonorrhea. In a paper before my own State Association in Texas, May, 1917, it was shown that there are certainly 10,000,000 persons infected with venereal diseases. In this paper it was shown that examination serologically of any considerable number of patients admitted to any hospital from any cause, demonstrated syphilis in from 17 to 65 per cent. Among 2,000 negroes admitted to John Sealy Hospital, Galveston, for any cause, 55 per cent. were syphilitic. McLester did a Wassermann on 500 private patients coming to him for any cause, and found 17 per cent. syphilitic.

These statistics could be quoted indefinitely. We are bound to concur in the conclusions of Lieut. Colonel Vedder, in Bulletin No. 8, War Dept., that:

(1) We may estimate that about 20 per cent. of the young adult male population of the class from which the Army is recruited are infected with syphilis.

(2) We may estimate that about 5 per cent. of the young men in our colleges are syphilitic.

(3) This study confirms observations that have already been published, indicating that syphilis is so prevalent among negroes that it is possibly the greatest single factor in the production of disability and high mortality rates among the race.

(4) The high percentage of syphilis among Porto Rican soldiers indicates that syphilis may be one of the important causes of disability among native Porto Ricans.

(5) Since syphilitic infection is so common, is productive of so much disability, and has so far entirely evaded sanitary control, it is believed that syphilis is a greater menace to the public health than any other single infectious disease, not even excepting tuberculosis.

THE PREVENTION OF SYPHILIS IN THE ARMY.

When a man comes into the Army, he sacrifices a large part of his personal liberty, and in return for that sacrifice it is a clear obligation on the part of the Army, and particularly on the part of the military surgeon, to provide the most enlightened and progressive medical treatment obtainable. To carry this to its logical conclusion means that all cases of syphilis should receive proper treatment.

Moreover, the civil community has long charged the Army with syphilizing its men and then returning them to civil life to infect civilians. The injustice of this attitude is apparent. For, aside from the fact, demonstrated in the survey of recruits, that many more infections come into the service in the persons of men fresh from civil life than are acquired during military service, syphilis is never acquired in the Army. The individuals with whom the soldier comes in contact that infect him with syphilis are civilians, and the civil communities surrounding Army posts are responsible for permitting this traffic. The Army is, therefore, in no way responsible to the civil community for the syphilis that is acquired by the soldier. But, since military control over soldiers is so far superior to any control that can be exercised over civilians, it is logical to expect much more of the Army in the prevention of infection and in the control and treatment of cases of syphilis that do occur, than is expected of the civil community.

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*Read before the Fourth Tri-State Meeting of Medical Associations of Oregon, Washington and Idaho, Seattle, Wash., July 17-19, 1918.

Aside from these considerations, the assumption that these undiagnosed cases are of no importance to the Army is unwarranted. They are a constant potential source of new infections. Further, many of these undiagnosed cases of syphilis are actually on the sick report masquerading under such diagnoses as chronic muscular rheumatism, arteriosclerosis, myocarditis, aortic valvular lesions, neurasthenia, hypertrophy of the liver, nephritis, etc.

In order to obtain some idea as to how frequent these unrecognized cases of syphilis might be, the Wassermann cards of 500 syphilitics taken at random were analyzed to determine the symptoms present at the time the Wassermann was requested. In the majority of cases the symptoms were clearly those of syphilis, but in many instances there was no indication of syphilis and the blood was evidently sent in simply as a routine, or in an endeavor to make a diagnosis by exclusion on symptoms not in themselves diagnostic. Eight per cent. of these cases examined fell into this category. The diagnoses included acne, arteriosclerosis, chronic tonsillitis, insanity, rheumatic pains, cardiac dilatation, deafness, epilepsy, atrophic rhinitis, tinea circinata, retinitis, dizziness, tender joints, flat feet, lupus vulgaris, Riggs disease, tumor of the liver, furunculosis, chronic articular rheumatism and general debility. Of course these particular diagnoses were revised as the result of the Wassermann findings before they were entered on the sick report; but the fact that such diagnoses can be made in cases of syphilis indicates clearly that there are many other similar cases in which the syphilitic cause is never detected.

It is only comparatively recently that the importance of syphilis as a cause of many conditions has been recognized. Thus probably at least 90 per cent. of all cases of aortic heart disease and a large percentage of cases of myocarditis are actually syphilitic lesions. Yet syphilis of the heart has always been considered rather rare, and probably few of these cases are included as syphilis on the sick report. The same thing is true of many cases of gastritis. Up to a few years ago syphilis of the stomach was considered so rare as to be a curiosity, yet recent investigations have shown that it is not at all uncommon. Such examples might be multiplied with the inevitable conclusion that syphilis is even more protean in its manifestations than we have as yet realized. Because of this fact, if the incidence of syphilis in the service were markedly reduced, the sick report would probably be pared down out of all proportion to the reduction in the amount of syphilis actually shown in that report.

Such hitherto unrecognized cases of syphilis have added a great expense to the maintenance of the Army, the exact amount of which cannot be calculated, because there is no way of determining the exact number of such cases, their ultimate end, or the extent to which the Government has been victimized in each case. Some idea of the magnitude of the cost of these unrecognized cases of syphilis may be derived from the following generalized considerations:

(1) The Government necessarily pays for their maintenance and treatment in hospital. Since the real cause of their infirmity remains unknown, they do not receive specific treatment, and consequently remain on sick report a long time.

(2) During this period they continue to draw their pay, which would be stopped in most cases if the true nature of the disease were known.

(3) They increase the total non-effective strength of the Army, and all overhead charges for the Army are the same for non-effectives as for effectives.

(4) They are frequently discharged on certificates of disability, thus entailing a financial loss to the Government. No adequate return is secured in such cases for the money spent on their maintenance, military education and transportation.

(5) They frequently secure a pensionable status, and thus become a financial burden for many years.

(6) Many are sent to the Government Hospital for the Insane, where they become a charge on the Government for maintenance and treatment all the rest of their lives. Capt. King's Report on Mental Diseases and Defect in the U. S.

Troops, Bulletin 5, Office of the Surgeon General, states that during one year, 77 enlisted men, 4 officers, and 7 general prisoners, or a total of 89, were admitted to the Government Hospital for the Insane directly from the service or from military prisons. It has been pretty conclusively shown that in at least 13 per cent. of the insane soldiers at this institution the insanity is directly attributable to syphilis. Applying this to the Army cases, it will be seen that each year the Army sends approximately 11 men to the Government Hospital for the Insane because of paresis or cerebral syphilis. In practically all of such cases the syphilitic infection was of long standing and was not recognized prior to the development of mental symptoms.

(7) The survey made on the inmates of the Soldiers' Home shows that many more such cases are maintained in such institutions. It must not be supposed that we are assuming that all the large number of cases in whom the existence of a syphilitic infection was detected were actually disabled because of syphilis; but all medical officers who have served at the Home will agree that there are very many such cases.

(8) A certain number of officers are retired "in line of duty" for conditions that are in reality due to syphilis. Thus only recently an officer was retired in this way for locomotor ataxia, a condition now universally admitted to be a manifestation of syphilis.

This study was made by Colonel Vedder in 1916. The Council of National Defense on June 22nd, 1918, says:

(1) The records of the Surgeon General's office show that the rate of venereal infections in the Army now is 30 per cent. lower than the lowest rate before this war. The Surgeon Generals of the Army and Navy are satisfied that the present low rates for venereal diseases among the soldiers and sailors are due to the preventive measures adopted by the Army, Navy and Public Health Service, in cooperation with the civilian communities.

(2) Twenty-six of our largest camps, taken at random, had an average of only 12.38 new cases per camp during the week ending May 17, 1918. Probably some of these camps contained 40,000 men, and it is doubtful if any had less than 20,000. That means that in one week there were only 322 new cases of venereal infection among at least half a million men. One of these camps had no new cases during the week and ten others had less than five new cases each.

(3) Among our expeditionary forces in France, one group of 26,000 men had no new cases of venereal disease during the month of February, 1918, and only four cases during the month of March.

(4) The Army and Navy have brought venereal diseases under control for the first time in history. This control is not perfect. Neither is our control of typhoid or tubeculosis perfect. But the control of venereal diseases has won an honorable place on the public health program and will never be taken off. A new epoch has been marked. We must adjust ourselves to it.

(5) The same excellent results can be achieved in all our towns and cities. Of the 80,500 cases of venereal disease in our Army since September 21, 1917, it is estimated that over 65,000 cases were contracted before entering the Army. The control of venereal diseases in the civilian population is thus a military problem of great urgency. We need sound fighting men, we need healthy workers, we need clean blood in our women and children for the speedy winning of this war and for the reconstruction of our national life thereafter.

(6) Many a city has fought vice and venereal disease, but there never was a fight like this one. Our whole country is aroused. The National Government is supporting the states. The campaign progresses with increasing force and effectiveness. State after state is passing excellent laws for the control of these diseases, by requiring them to be reported as are other dangerous communicable diseases, by requiring all cases to be under medical treatment until cured, by requiring the isolation of cases that so conduct themselves as to be a danger to the public, by repressing prostitution, and by education of public opinion.

(7) * * * * *

(8) We, as physicians, are coming to realize that every venereal case, whether man, woman or child, is a focus of infection of a dangerous communicable disease, and must be treated carefully and patiently until cured, even if that takes many years; that each patient must be taught how to avoid infecting others; that patients discharged as cured must be kept under observation, that subsequent examinations for the gonococcus must be made at intervals for months or, in the case of syphilis, that Wassermann tests must be made at

intervals for years or even for life, in order to insure these apparently cured cases against an unexpected relapse of their disease, with the most serious results to themselves and their families or associates.

Report No. 459, U. S. Public Health Service, which is approved by the Surgeon Generals of the Army, Navy and Public Health Service, should be in the hands of every physician and a letter will bring it to anyone. This is an ideal and a scientific outline of the fight on venereal disease. We recognize the fact that a man can live continent and be absolutely healthy. This should be taught consistently by every medical man to combat the pernicious idea that sexual intercourse is necessary to health. I can do no better than quote from this reprint:

NOTES AND SUGGESTIONS.

Note 1. A rule providing penalties for violation of these regulations should be added if penalties are not specified by statute. It is thought preferable that the statute should prescribe a penalty for violation of regulations of the State Board of Health. In any case the state law should be examined to make sure that it either prescribes penalties or give the State Board of Health power to do so. The statutes should also give the State Board of Health the powers suggested by the following wording: "The State Board of Health shall have power to make such regulations concerning venereal diseases, including the reporting thereof and quarantine of infected persons, as it may from time to time deem advisable."

Note 2. It is recommended that provision for intensive treatment in suitable hospitals while patients are under quarantine shall be made by the municipalities, counties, or the state at public expense, and that adequate hospitals and clinic facilities of high standards shall be made available to voluntary and compulsary patients.

Note 3. For the enforcement of these regulations it is recommended that states establish bureaus or divisions of venereal diseases under the State Boards of Health and appropriate the necessary funds.

Note 4. The issuance of arsphenamine or equivalents to health officers, institutions and physicians at state expense under suitable restrictions is a valuable measure for preventing syphilis, as these substances render cases of syphilis noninfectious in the shortest possible time.

Note 5. Provision should be made for the examination of prisoners for venereal diseases and their treatment. If they are still infectious with the expiration of their prison terms, they should be quarantined and treated until they can be released with safety to the public health.

Note 6. Laboratory tests for syphilis and gonorrhea should be made for physicians by the laboratories of the State Board of Health and the health departments of large cities.

Note 7. Due provision should be made for follow-up work and social service in connection with the prevention of venereal diseases.

Note 8. Institutions are needed for the segregation of persons who are, or are almost certain to become venereal-disease carriers and who cannot be adequately controlled in any other way. Sufficient provision for the segregation of the feeble minded is most important.

Note 9. It is recommended that the "floating" or "passing on" of persons having venereal disease from one community to another be prevented.

Note 10. It is suggested that the bureau of venereal diseases carry on a campaign of public education in venereal-disease prevention, and in the conditions responsible for the dissemination of venereal diseases.

The Government suffers no delusions as to the number of men who will be restrained by these measures. It uses, therefore, all the means applicable to these dangerous infections. The medical officers are required to lecture to the men on the nature, cause and means of transmission of venereal diseases. Men who expose themselves to infections are required to report promptly for prophylaxis; any evasion of this rule is severely dealt with. We believe that up to a certain point our work is all that can be asked.

But the Army has its limitations. Our Surgeon General says: "It should be understood that the prime source of infection in venereal disease lies not within military jurisdiction and control, but in civilian life." The Government, therefore, must appeal to every city and town in the country to use every means in its power to prevent its population from becoming further infected with venereal diseases, and to secure adequate treatment of individuals already infected. This is indicated by sound economic policies and by patriotism. A soldier made non-effective by venereal disease is of the same value to the Hun as one made non-effective by a German bullet.

THE CONTROL OF VENEREAL DISEASES IN THE ARMY.*

By Captain Alexander H. Peacock, M. R. C.
CAMP LEWIS, WASH.

It is with considerable timidity that I attempt to outline for you the control of this age-old problem which has vexed and tried all systems of religion, great reformers, public spirited thinkers and philosophers who have lived for the betterment of social conditions throughout the world. The questions and conditions go far beyond the pale of medical science, and yet we, as custodians of the public health, made up of countless individuals, must face the conditions present and do everything possible to make this a healthier and happier world in which to live. It is chiefly a social problem and so I will take it up.

I have no intention to give you an array of charts and figures to show you the wide prevalence of these social diseases in civil or military life, but I can assure you that the army of young men now under training in this country are far cleaner than an equal number of young men in civil life, who are free to roam and live their lives as their fancies lead them. Of the recruits received, 4.4 per cent. were harboring venereal diseases, while in the regular troops under active training less than one per cent. are infected. In May, 1918, strength of command, 51,000; new venereal cases 13, or one out of every 4,000.

The control of venereal diseases has several angles of approach, and I will take them up under separate headings.

(1) First I will mention the *sources* of contagion—infected girls and women. They are everywhere, in private homes, rich and poor, high-class hotels and apartments, just as well as "red-light" districts. Many are infected as school girls, and it does not take long to disseminate these diseases thruout a community. I need not remind any of you who have practiced medicine, of the numberless examples we have had in self-respecting families of salpingitis, ovarian abscess, cervical endometritis, vulvovaginitis and urethritis. The gynecologist can give testimony to this statement, as his work comes almost solely from the effects of sexual congress.

Attempts have been made to control the public woman, and in small communities fairly efficiently. Speaking of the U. S. Army, military control of prostitution has been tried sporadically on the Mexican border and in the Philippines. Colonel Maus, speaking of the latter, said: "At the time Jolo was under military control, the public women were examined and segregated weekly. Those found diseased were at once transferred to a lock hospital and retained until they were cured or the infectious stage had passed. The results were gratifying among the troops, inasmuch as they were practically kept free from these loathsome diseases during the regime, which lasted several years." They were under constant inspection, and as soon as evidence of disease appeared were forbidden to ply their trade.

This system has been tried on the Mexican border, where the troops were many miles from town or city. Here the men were obliged to patronize these official women or go without. In camps adjacent to large cities, however, the problem changes; the women are too numerous, too scattered and from too many walks of life to control or catch them. Hotels can be watched, but what of the private homes, picnics and the great out-of-doors. From the records of our prophylactic station, we know that exposures take place at a very short distance of our camp. It has been possible to trace—by the infections coming from them—certain dance halls and hotels which are more grossly contributory to venereal disease. Out of one dance hall I could mention we had several labial chancres, contracted from kissing fair dancing partners who had mucous patches; these were reported and the place quarantined. Speaking of dance halls for the soldiers, one proprietor near camp told me he gave up in disgust. He employed a dozen girls as dancing partners who, instead of dancing, would slip out between dances and fail to return, so that he had no girls to keep the next dance going.

Women always have and probably always will follow an army when they can; whether it is the uniform or just a natural instinct I do not know, but they do. It is reported that even in modern times, as in Russia, they followed in caravans, and one irate commander had a whole company of such women drowned in the river. It has come to my personal knowledge that a number of infections among the newly arrived soldiers followed exposure with women from their home towns hundreds of miles away. These women had, by fair means or foul, followed their soldier lovers. These examples are not the rule, for most women have more self control than men, but I wish to remind you of the widespread sources of infection which are legion. While I am on this phase I will say that it is not always a commercial thing or an act to gain the necessities of life with all these women, for many are only giving themselves up in the name of love and devotion, where marriage is not advisable or possible; or they are giving in to that great sexual instinct which is the basis of life and far stronger in some individuals than others; they seem unable to resist it and see for themselves the long train of trouble resulting from such acts.

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*Read before the Fourth Tri-State Meeting of Associations of Oregon, Washington and Idaho, Seattle, Wash., July 17-19, 1918.

(2) After mentioning the control of women, I will take up the control of troops off duty. A soldier on pass or leave of absence is a free agent, a boy out of school, an animal turned loose, and his acts will be determined by his tastes, desires and ideas of recreation. He is controlled only thru his honor and ideals and keeping within due bounds of the ordinary laws of the community. Consequently he is much safer in a small town than in a large city, where his opportunities of meeting girls and women are slight. He is also under closer observation. In a large city, however, his quarry is great and he and his companions are easily lost in the crowd. It is likewise true that a soldier in his home, near his own people, is apt to be more circumspect than in a strange place, for the ties and shields of a home are severed and he is apt to drift with his new companions.

Again, a new problem faces the soldier overseas and the trench life he must live. After the enthusiasm of the voyage and new camp life wears off, after days or weeks of living under physical strain, hard labor, little sleep, privations, the monotony of it all, the longing for home and friends, the roar and shock of artillery, and the sight of his companions mortally wounded, all seem to combine to give him new views of life, with a tendency to disregard the teachings of the good old mother back home. Letters are infrequent and he feels that if not forgotten, he is at least out of their lives; so when he draws his two weeks' leave after four months of fighting, it is only natural that he heads for a big city in which to find forgetfulness of his present living, recreation and entertainment. Obviously he cannot be watched. His philosophy is that while he escaped this period he may be dead the next, so why not enjoy himself to the limit while he has this, possibly, last opportunity?

Having these conditions in mind, the military authorities are keeping American troops away from the larger cities by placing them under quarantine, and have planned special places along the Mediterranean, where the towns will be under perfect military control, and afford the soldier on pass every sort of healthy amusement and recreation possible. This is a very wise measure, for all young men have not that safe control of themselves in the presence of girls and women who encourage them in the dangerous art of love-making, and the great instinct flares up and will not be denied; they are drawn by an invisible force which only the strong can successfully resist.

(3) Another angle of venereal control is the reporting and segregating of all people suffering from venereal diseases, men as well as women. At the present time, in America at least, such regulation would play havoc with society; such a law would be resisted bitterly, for it would drag skeletons out of too many closets; it would brand a man or woman for all time to be publicly known as a syphilitic or a gonococcus carrier, and yet it is the only rapidly effective way of stamping out these serious and prevalent infections. This we can keep in mind and strive for.

(4) What other protection can we afford our soldiers? By throwing around cantonments a military police zone, which zone may extend many miles, as it did in the case of Camp Lewis and Seattle, 70 miles distant, where conditions, in the opinion of the sanitary officers of that camp, seemed a menace to the health of their troops. In these zones they can place any park, amusement hall, hotel or building under strict quarantine and guard, turning back any soldier who attempts to enter therein. In this way grossly dangerous places can be controlled by the army for the protection of its soldiers.

Another protection is the venereal prophylaxis. Against this some communities and countries have raised a hue and cry as in England, where they recalled such measures in their British-Indian army, and as a result syphilis, which was present to a limited extent, jumped to over 80 per cent. of all white troops in India.

As Col. Ebert, of the U. S. Medical Corps, says, "No one desires more than the army sanitarian that all illicit sexual intercourse be absolutely suppressed, as in that way only can venereal diseases be overcome; but never in the history of the world has this been accomplished. All men cannot be made moral by law; some may be repressed by fear, but these will not hesitate to disregard the edict if a safe opportunity offers. If reasoning does not appeal, and fear too fails, as it does in so many instances, is then the medical officer wrong when he endeavors to protect the Government, the man, and the community, present and future, by lessening the chances of incidence and rendering as innocuous as possible the disease liable to be incurred?" Hence, in the year 1909 prophylaxis was instituted in the army with a marked lowering of admissions per thousand and the non-effective rate; and in August, 1912, the present order (A. G. O 21 also 9.0 45, 1914) of a punishment to those failing to take prophylaxis, lowered still more the noneffective rate. The figures for the Hawaiian posts are: 1909, admissions per thousand 225.84; 1916, 60.00; non-effective rate in 1909, 23.23; 1916, 4.44.

These measures have greatly reduced venereal infections, but are not always successful, inoculations taking place in spite of them. Frequent venereal inspection, or "short arm," is also necessary, as some will fail to report a slight discharge or venereal ulcer, giving themselves treatment, hoping thereby to evade punishment and publicity.

Prophylaxis proving so efficient in the army, should be equally efficient and advantageous in civil life, and I predict that the day is coming when prophylaxis stations at the municipal expense will be established in all large cities, adjacent to their comfort stations.

(5) The last and most important point of attacking this problem is thru the mind. Our American soldier is most intelligent; he has a mind, he is trained to observe, to think and to obey. He is a young man, capable of being taught many subjects and receiving valuable information; considerable study is necessary to make him proficient as a soldier, for we must have specialists of every kind imaginable—mathematicians, engineers, chemists, physicists, cooks, bakers, accountants, mechanics, telegraphers, electricians, musicians and so down the list.

The evils and dangers of venereal disease must be, and are in most camps, taken up in a course of lectures given on the subject by well-qualified teachers. The army has a special department for this instruction. The truths of the situation must come to light, not only in the army but in every civil community. A vast system of education is necessary. A few years ago how many feared consumption and how many indulged in expectorating upon the sidewalk? Today the public is alive to these evils, due entirely to the publicity and instruction received thru the newspapers and lectures. So should we do with lues and gonococcus infections.

Some minds must be impressed thru fear, showing them the danger of the kiss of a stranger, the resulting labial chancre, the ulcerated tongue and mouth; the loathsome chancroid or chancre, the body broken out in a rash that brands and disfigures, the ulcerating leg, the perforating of the nasal septum or hard palate, the paralysis of locomotor ataxia, and the syphilitic insane. Show them the chronic gonorrheic, with multiple arthritis, spending weeks or months in bed or on crutches—a semi-invalid for life, with prostate, seminal vesicles or urethral glands out of which no human agent can drive the lurking gonococcus; let him see the infected girl, whose poison is out of sight yet most active—vulvovaginitis, chronic urethritis, cervicitis, endometritis and salpingitis. What prices must be paid for promiscuousness, for out of five hundred women picked up recently for disorderly conduct, in a Pacific Coast city, 78 per cent. were infected with gonococcus or spirochetae.

Another type of man requires substitution for venery. Psychology has shown that never is it possible to rip up and tear out of the mind memories or habits of the past; if these have been harmful, to get rid of them we must displace them by substitution. The Y. M. C. A. has long been cognizant of this truth, and has directed boys and young men into athletics, with most gratifying results. Besides keeping them busy and away from girls, they soon develop friendships between boy and boy, and man and man, which satisfy their desire for companionship and recreation. So in the army sports and athletics are taking an ever-increasingly important part in all camps.

A third method of intellectual control is giving the soldier high ideals. These he may receive from his mother, his sister, his religion, his philosophy, his fraternal order or the example of others. The small boy is a born hero-worshipper, and indeed never gets entirely over it, even in adolescence. Most all of us have our ideals in men, both living and dead; we should ever keep them before us, endeavoring to reach the highest development possible to ourselves. We may fail most grievously, but always can we try again to climb higher. And how much easier it becomes to have a mother, a sister or a fine woman to live clean and straight for.

A fourth method that is bound to come with time, knowledge and public education, is the establishing of the single standard of virtue. If men can be polygamous, so can women; it is no greater wrong physically; one standard for both sexes. The women themselves, as they are becoming more independent economically, are demanding this; they do not care to risk their clean bodies with men who are promiscuous, and who can blame them? Marriages will be contracted with far greater care and discretion; mismating will occur but these will be recognized legally and so remedied, but the double standard is doomed.

This subject is so vast, so far-reaching, not alone to our army but to the civil communities in which they are encamped, that I could possibly cover but a small part of it. For example, I have not mentioned alcoholic liquors, one of the most powerful agents to remove the sexual restraint of men and women, and to incite the sexual act. Prohibition is to be most earnestly recommended and enforced. The navy, the army, industrial and commercial life, all can testify that more work of a higher grade, and a finer brain and muscle control are obtained when alcohol is abolished. Already in this war of the past four years little stories have leaked out which cannot be repeated, where alcohol has aided the enemy.

The prophylaxis employed by the U. S. Army consists of a cleansing of the genitals with soap and water, and then with a bichloride solution 1:5000, a urethral injection of 2 per cent. protargol and anointing the scrotum, pubes and genitals with 30 per cent. calomel ointment. These must be taken within six hours after exposure. They have proved very efficient, but are not proof against all spirochetae. These are given by attendants and are all duly recorded. To disobey this order is a very serious offense.

With the time at my disposal, I have tried to give you a broad view of the problem, and some means whereby we can, not only keep our armies clean but also improve the conditions in civil life.

Meningeal Hemorrhage of Newborn.—Jules M. Brady, St. Louis (Journal A. M. A., Aug. 3, 1918), remarks that meningeal hemorrhage in the newly born is not a very rare accident. It may occur in various regions of the brain and its membranes; in the brain substance itself, the ventricles under the dura or arachnoid, or at the convexity or the base, but the general opinion seems to be that the meninges are the usual source of the hemorrhage due to the pressing against and over one another of the cranial bones and consequent laceration of the vessels. The diagnosis may be very clear or very problematic.

SEATTLE'S EXPERIENCE WITH THE QUARANTINE AND TREATMENT OF VENEREAL DISEASE.*

By J. S. McBride, M. D.
SEATTLE, WASH.
Commissioner of Health.

Early last fall the authorities at Camp Lewis placed a quarantine on Seattle, forbidding soldiers from visiting this city, and the presence of vice was given as one of the reasons for this drastic action. Altho I do not believe that Seattle was any worse in this respect than other large cities, located close to cantonments, yet we were equally guilty, as all America has been, of attempting to make ourselves believe that vice and venereal diseases were being kept under control.

This unfortunate occurrence of being quarantined has undoubtedly been a blessing in disguise for this city. The presence of thousands of soldiers in training camps in and near Seattle, combined with our quarantine, created sentiment thruout the community in favor of strict regulation of venereal disease, and clearly demonstrated to our citizens the absolute necessity and wisdom of adopting and enforcing more rigid regulations along the line of venereal prophylaxis than could possibly have been carried thru in a century in time of peace. In other words, it furnished us the psychologic moment for putting into effect a system whereby venereal diseases in the vicious class, with their accompanying vice conditions, could at least be very materially reduced.

This we proceeded to do in a somewhat radical manner. The method adopted has, I believe, proven very effective so far as we have gone. We all know that theories without number have been advanced for controlling these diseases but, if they are to be of any practical benefit, the cost of maintenance must be forthcoming; and this has always been the stumbling block, as Mr. Taxpayer has been content to console himself with the thought that, because venereal disease has been with us since the time of earliest history, why bother about it now.

In our own city statistics for 1917 show that we had approximately ten deaths from syphilis alone each month, and there are undoubtedly a great many more where syphilis was the underlying cause, but does not appear on the death certificate. The taxpayer has to take care of those in our asylums, the majority of whom are there on account of syphilis. Why not spend this money before such a physical and hopeless condition exists, while there is yet a chance for reconstructive work. The familar train of symptoms and invalidism from venereal diseases are familar to you all, and do not need repeating to a gathering of this kind.

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*Read before the Fourth Tri-State Meeting of Associations of Oregon, Washington and Idaho, Seattle, Wash., July 17-19, 1918.

These are only a few of the reasons why those interested in preventative medicine have attempted for years to start some method of attack against this ever present social disease and menace to human life. We have to thank the medical division of our army and navy for calling the attention of the public to the urgent necessity for action, and when properly shown I have always found the public ready to support any movement having for its object the elimination of disease. I believe this has been proven in Seattle, for I have yet to hear of a single person objecting to the cost of running our detention hospital, excepting those interested in the furtherance of vice; and I feel sorry for the official who at the present time would attempt to force a return to our old conditions.

I remarked at the commencement of this paper that the quarantine of Seattle furnished us the ammunition, and as a result action was taken on November 9, whereby all disorderly persons arrested by the police were immediately turned over to this department for medical examination, to determine whether or not they were affected with any venereal disease. The necessary amendments to strengthen our then existing ordinance on contagious diseases were duly passed by the City Council, and I am pleased to report that not a single person has been ordered released by either superior, federal or state supreme courts, altho over *seventy-five* writs of habeas corpus, of as many varieties, have been filed against me in an effort to effect the release of these people, with the sole idea of breaking the combination and incidentally fattening the shyster lawyer's bank account.

When these people are arrested as disorderly persons, they are immediately turned over to our department for examination and, if found diseased, ordered to our detention hospital without ever having been in court. Our idea has been to treat this matter entirely as a health measure and not a legal one. If the clinical, combined with laboratory examinaton, proves conclusively that they are suffering from venereal disease, they are just as much a menace to the public health as persons suffering from smallpox or other contagious diseases and, if allowed to run at large, will practice prostitution and scatter venereal disease broadcast.

During the month of November, 1917, one hundred and one were examined; December, one hundred and two; January, eighty-six; February, forty-eight; March, thirty-three; April, fifty-two; May, forty-three; June, forty-three; and up to date in July, six, making a total of three hundred eighty-eight women and one hundred thirty-three men, or five hundred twenty-one all told. The number found diseased was three hundred seventy-one, number not diseased, one hundred fifty. Two hundred and five were found afflicted with syphilis, seventy-five with syphilis and gonorrhea and ninety with gonorrhea only. The number under treatment at the present time is one hundred thirty-one women and twenty-five men, total one hundred fifty-six.

Out of thirty-nine drug addicts examined, thirty-five were found to be suffering from venereal disease. Altho these are segregated by themselves while interned, yet we find them exceedingly difficult to control, as they will resort to almost anything to get out, or pay their last cent to bribe a nurse or employe to bring in drugs, etc. for them. The hardened criminal class and those addicted to drugs should undoubtedly be taken over by the Federal Government and held, at least during the period of the war, treated and taught some useful occupation, so that upon release they will become useful citizens, and not return to their old practice.

The other class who are not naturally inclined to follow a life of the underworld, but get picked up by the police, are usually very repentent and, I believe, from observation the past few months, have learned their lesson. These I feel can be returned to their parents, husband or turned over to good people with proper home influence.

Up to date one hundred fifty women and thirty-six men, or a total of one hundred eighty-six, have been released. Out of this number eighty-one were returned to relatives in the city, sixty-five to relatives outside of the city, and forty without relatives were discharged. This latter class are being taken care of in private homes by women who became interested in the work. So far we have had only one case brought in a second time.

This followup work is very important, and unless properly carried out will nullify the good done by forcible quarantine and detention. As a rule, the majority are a listless, lazy, destructive bunch, and for that and other reasons we try to segregate them according to character, keeping the hardened individual, drug fiends and colored people by themselves; and those who show any disposition whatever to desire any kind of occupation are given light work to do. This system could be very materially enlarged upon if the facilities were better, and the length of stay was longer.

Estimating conservatively, I find that our isolation alone, during the past eight months, has prevented on an average of thirty thousand exposures a month with diseased men and women, or in the neighborhood of three hundred and fifty thousand per year. This, combined with what is being accomplished by physicians in treating those who come to them purely on account of this movement, gives us some idea as to whether or not the shipbuilder, soldier and civilian is receiving any protection, during a time when manpower is so necessary.

It would be foolish on my part to claim that this is the absolute solution to this tremendous question, or that we have all of them in Seattle detained. for new ones are being arrested every day but not nearly so fast as in the beginning. It is only one link in the chain, but I believe it will prove of some assistance to those who are fighting this difficult problem.

It is not fair that those cities located close to cantonments should bear the entire burden of expense, nor are we going to get permanent results if these people are driven out of here, and forced to take up their abode and practice their profession in smaller towns nearby. The state and nation must be interested. I know the Federal Government has this matter under serious consideration at the present time, as there have been two bills introduced in Congress, relating to the control of venereal disease. One was introduced by Senator Chamberlain on May 25, 1918, known as Senate Bill No. 4608, which was adopted by the Social Hygiene Committee, appointed by the Council of National Defense. This bill carries a million dollar appropriation annually, for two years, to be used jointly by Army and Navy, and United States Public Health Service, for research work, assisting state boards of health in controlling these diseases, and advising proper rules and regulations for quarantine and detention of the vicious class, found suffering with venereal disease. It carries a provision that the different states must appropriate, dollar for dollar, in order to secure this assistance. Supervision is under the United States Public Health Service, which will standardize the system and treatment, and also remove it from any dangerous pitfalls, connected with local politics. It deals with the question more from an educational standpoint.

The other bill is known as House Bill No. 12177, which was drawn and introduced May 18, 1918, by Congressman John F. Miller, of Seattle. The Miller bill is patterned after the methods adopted and enforced by this city. This bill is intended to conserve and increase the industrial manpower of the United States, to increase the efficiency of the military and naval forces thereof, enlarging the powers of the United States Public Health Service, by creating and establishing a Division of Venereal Diseases therein; providing for the punishment of immoral persons afflicted with venereal disease, who go or attempt to go from one political division into another, and persons who assist or connive at the same; establishing internment hospitals, authorizing the Secretary of the Treasury to establish all needful rules and regulations relating to the subject matter of this Act, and authorizing an appropriation of three and one-half million dollars to build or lease these internment hospitals in each state, the maintenance of same to be taken care of by state or other appropriation. I feel and believe that these two bills, especially the Miller bill, which is the most practical, are necessary, and should receive the wholehearted support of every medical man who wishes to see advances made in the control of these heretofore difficult diseases.

I wish to say, in closing, that if the assistance given our department by the medical profession, state health department, and different city officials, has enabled us to produce results out of which some legislation of a national character is the outcome, we will all have been well repaid for our efforts, and in the meantime have done something toward protecting our boys at home, and those now in the service, who are fighting our battles "somewhere over there."

PROSTITUTION IN SEATTLE.[*] [†]

By W. Ray Jones, A. B., M. D.
SEATTLE, WASH.

When the committee undertook its work in 1917, we found public sentiment and military necessity demanding efficiency in diminishing venereal diseases, more especially among our fighting men. We found many civic organizations wanting and willing to cooperate with us, *if we followed their ideas.* Preventative measures that would prevent were the demand, so we took the pioneer step of establishing first aid stations where our fighting men, when exposed to venereal infection, could receive appropriate preventative treatment. One was established in Tacoma for the army, and a general dispensary in Seattle, where soldiers and sailors could secure all kinds of first aid treatment. After the establishment of these stations the authorities made them official and ordered their men to make use of the stations when necessary.

Like our predecessors, we followed the time-worn custom of getting out pamphlets relative to venereal diseases. These were exclusively for soldiers' and sailors' use, and not only gave the dangers of venereal infection but also preventative prophylactic treatment, and the location of the prophylactic stations where this preventative treatment could be obtained free of charge. After the stations were well established; the army authorities took them over entirely, and put their men in to care for them, leaving us open for other work.

In venereal prophylactic work Washington has always been a pioneer. Seattle took the first step toward the prevention of venereal disease in regarding it as a public health problem in the spring of 1913, when the first free municipal public clinic for venereal diseases in the United States was established. It originated as a subdepartment of the general municipal clinic because of there being too many venereal cases for the general clinic to handle. Two hours three days a week were given to the male venereal patients. The attending man on the genitourinary service of the city hospital was in charge and an intern acted as his assistant. The city furnished all medicine and equipment, and patients were treated gratis. That clinic is still running.

Seattle took another pioneer step last October when it started to rid itself of prostitution, not thru police or political action but as a public health measure. When the clean-up started, we offered our services in any way that we could help, and were put to examining prostitutes for venereal disease. Later I was appointed a medical inspector in this work. The methods used in this clean-up are given in detail by its central figure, Dr. J. S. McBride, Commissioner of Health.

There has been much criticism to the effect that too many girls have been found diseased by the city examiners. Approximately thirty girls brought in doctors' certificates of health, every one of which on investigation was shown to have been given without a thoro examination. To be classed as diseased, all cases had to have a positive Wassermann or positive gonorrhea slide. Suspicious gonorrhea cases were always reexamined to confirm the clinical evidence. To secure this evidence, Skene's and the Bartholin glands were milked for secretion, and a suction syringe used to cleanse the mucus from the cervix before curetting with a platinum loop for the secretion to be examined. Nineteen cases were clinically syphilitic, with negative Wassermanns. Repeating the test gave fifteen of them positive. The other four were released for lack of sufficient evidence that would stand in court. Four negatives among about two hundred and seventy-five syphilitics gives a trifle over 1 per cent. error.

Between October and July first the Seattle health department examined 513 men and women for venereal diseases, divided as 129 men and 384 women. Thru the kindness of the department we were permitted to study these people and present the following tables and deductions:

TABLE I.

Five hundred thirteen prostitutes and their associates examined between October, 1917 and July, 1918.

	Women.		Men.	
	Number.	Per cent.	Number.	Per cent.
Syphilis	164	42.6	34	26.5
Gonorrhea	67	17.4	23	19.
Both gonorrhea and syphilis	65	16.9	11	8.5
Chancroids, uncomplicated	1	.2	1	.1
No disease	87	22.6	61	47.
Total diseased	297	78.	68	53.
Total syphilitics	229	60.	46	35.
Total gororrhea	132	37.	34	26.4
Total number patients	384	....	129	....

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[*] Read before the Fourth Tri-State Meeting of Associations of Oregon, Washington and Idaho, Seattle, Wash., July 17-19, 1918.

[†] Report of the Committee on Venereal Prophylaxis of the Washington State Medical Association. The original committee consisted of Drs. J. D. Windell, of Spokane; W. A. Monroe, of Tacoma, and A. H. Peacock, of Seattle. Drs. Peacock and Monroe entered the active army service before the work was well started, and the president, Dr. Horton, asked me to assist in the work in the western part of the state and get out a comprehensive report.

Deduction: 60 per cent. of prostitutes have syphilis, 37 per cent. gonorrhea and 17 per cent. both. A man's chance of getting a prostitute that is diseased is 78 out of 100.

TABLE II.

Drug Users.

Total number women	384	Using drugs	41	Per cent.	10.
Total number men	128	"	29	"	22.9

Among these 29 men using drugs, eight passed as not diseased and 21 as infected, all having syphilis, and three gonorrhea as well. Three of the non-diseased men gave positive syphilitic histories with treatment.

Of the 41 women using drugs, all were diseased, 39 having syphilis or both gonorrhea and syphilis, and two gonorrhea only. All the women denied syphilitic infection, and we were inclined to believe them honest. This could be explained on the ground of their having interchanged hypo needles without sterilizing, or by their close association with others having the disease. With these people infection is to be expected, as a "hop head" will take any chance to get the drug. Two men and seventeen women began using drugs for their medical properties, and the rest merely as some new debauchery. One aggregation of four had celebrated on cocain because it was more easily secured than whiskey.

Ages varied from 16 to 60, 70 per cent. being between the ages of 18 and 25. The younger were largely girls who had taken to a "sporting life" because of a quiet home life not furnishing enough excitement. Among other causes of the younger ones going bad were marriage to a "pimp," having expensive tastes that ordinary wages would not supply, and falling into bad company. The old story of a girl being kidnapped, held in prostitution against her will, tricked by fake marriage, etc., was not borne out. One hundred per cent. began sporting from choice. All diseased ones were questioned on this.

TABLE III.

Religion.

	Women.		Men.	
	Number.	Per cent.	Number.	Per cent.
Protestant	192	50.	47	30.
Catholic	136	35.4	34	27.
Jew	7	1.8	8	7.7
None	49	12.7	35	27.
Others	..	....	5	4.
Total	384		129	

This was really the religion of the home, as the usual answer was, "I used to be ———" or "My mother was ———."

TABLE IV.

Twenty Families of Husband and Wife.

		Per cent.
Gonorrhea only in both	5	25
Gonorrhea and syphilis in both	3	15
Syphilis in both	7	35
Total both diseased	15	75
		Per cent.
No disease in both	1	5
Syphilis only in wife	1	15
Gonorrhea only in wife	1	5
Total women with husbands "pimps" diseased		95
Total men "pimping" for wife diseased		85

TABLE V.

Fourteen Families, Each Represented by Two Female Children.

	Families.
Gonorrohea in both	3
Syphilis in both	4
Gonorrhea and syphilis in both	2
One gonorrhea, other syphilis	4
But one diseased	..
Both no disease	1
Total	14

Note.—One family contributed three sisters, one goronrhea and two both gonorrhea and syphilis.

Both heredity and family environment must be considered, as in many cases the mother thought it perfectly proper for her girl to get a "little eatin' money." In numerous cases the mother herself was a prostitute. One such case, both mother and daughter diseased, came into quarantine. Five mothers thought it perfectly proper for their daughters to live with different men without the formality of marriage, so long as they did not "chase around." One father had two daughters whom he started out to support him.

TABLE VI.

Race.

	Women.		Men.	
	Number.	Per cent.	Number.	Per cent.
White	329	83.	103	80.
Colored	45	11.7	21	16.
Indian	7	1.8	..	...
Mexican	3	1.	1	...
Japanese	..	....	1	...
Chinese	..	....	..	...
Total	384		129	

TABLE VII.

Birthplace.

	Women.		Men.	
	Number.	Per cent.	Number.	Per cent.
United States	341	88	101	78
Foreign	42	11	28	22
Total	384		129	

All the foreign born girls were questioned as to having been brought to this country for immoral purposes and as to having been forced into prostitution soon after landing, with the uniform answer that it was volitional, not one having been imported or forced. Some (approximately six) acknowledged having been prostitutes before coming to this country.

TABLE VIII.

Civil Condition.

	Women.		Men.	
	Number.	Per cent.	Number.	Per cent.
Married	90	23.4	28	21.7
Separated	178	46.	19	14.7
Widowed	23	6.	16	12.4
Single	93	24.2	66	52.3
Total	384		129	

Of the ninety married women, the husbands of twenty were shown to be profiting by their lewdness. Husbands of three were convicted on white slave charges and sent to the penitentiary. The peculiar thing is that these three women "stood by" the husband and insisted upon his innocence.

Five cases (1.4 per cent.) came in pregnant, one being married and living with her husband, one married and separated from her husband for the past year, and three single. Two of the single ones attributed their condition to soldiers. Two had syphilis and one gonorrhea. The syphilitics were weak mentally, one being a high grade and the other an ordinary moron.

Mentally fully fifty per cent. showed lack of reasoning power. About eighty per cent. had less than a common school education. Among the total, however, were at least ten high school graduates. Here was one place where general knowledge could be gauged by finance. The more refined, more educated ones all had money. The more ignorant had more. Several had attacks of acute insanity, all recovering in a short time.

Three hundred and seventy-four cases of syphilis were examined and treated; three were primaries, two being men and one a woman. One man and the women had negative blood tests, but slides positive for spirochetes. Seventeen women were in the secondary stage. Three girls were congenital syphilitics, and the remainder (251, or 69 per cent. of the luetics) tertiary.

The combination of arsphenamin, k-i and mercurial syphilitic treatment was varied with the case. All had to have a negative Wassermann before release. From five to nineteen arsphenamin injections (.6 gm) plus the other treatment was required to accomplish this. A few failed to come negative after fourteen intravenous injections, plus four months mercury to saturation.

Gonorrheics were given local treatment plus vaccine, in addition to body and sexual rest. A few obstinate ones had cone amputation of the cervix with excellent results. State regulations of three negative slides, forty-eight hours apart without treatment, were strictly adhered to.

A study of vice conditions shows that one year ago there were three classes of prostitutes, bawdy house girls working inside exclusively, the hotel street walker and the clandestine. The bawdy houses were open under the disguise of hotels and existed with the constant knowledge that they were liable to be raided any minute. The house girls were little better than slaves; they paid for their room, paid for their board in addition, and besides this contributed fifty cents or a dollar per customer to the house, depending upon the price collected. In addition to all this, every girl had to pay so much to some one to keep her out of trouble and send her customers in. She paid it, never knowing where it went or what for, but knowing that if she did not pay she was "in Dutch." There probably was no vice ring operating in this part of the country, still the information was general that a house girl must stick to her place or, as one expressed it, "has to work her regular hours, except during catamenia, or she can't get another job." A check on three girls in the same house, working July 4, 1917, gave one as caring for 74 men, another 88, and the third had lost count when she reached the hundred mark. They said business was good as so few places were open that had runners out.

The hotel girl roomed down town and frequented public places, as dances, cafes and the like. If in a cheap hotel, her customer came to her room, if in a better one she made each customer pay for the room in another hotel. For her customers she paid a bellboy, cigar salesman, hotel clerk, or a chauffeur or the like, amount varying from twenty-five cents to half taken in, the usual price in a down town hotel being a dollar for the "mack." This type was to be found in practically all the cheaper hotels.

The clandestine girl had a regular position, and only obliged her friends, of whom sometimes she had a superabundance. She might even be living at home, without her parents suspecting that she "worked the cafes" nights. Of course, all types blended into each other, no sharp line being drawn.

Socially, at one extreme we found the drug-user without home or friends, with no other means of livelihood than prostitution; on the other, the girl of respectable family with all the ordinary comforts of home, and passing as perfectly respectable among her family's friends, but on the street or cafe or hotel a "true sport."

When the clean-up started, the house girl went first, the hotel girl is passing, and the clandestine list enlarging. There are probably twice as many clandestine prostitutes in Washington now as there were a year ago.

An explanation of what happened to the house girl is given in the case of D. M., who, when questioned in November as to what she would do since the houses were closed, answered, "O, get a raincoat and a pair of overshoes and live at the apartment" (one of the better ones). That was in November; in January the landlord had forced her out by raising the rent, in March she was living off her friends. Now she has a regular position, making no more in a week than formerly in a day, but living more comfortably, tho she might still be classed as a clandestine prostitute. I am now told by former house girls that the house is now a thing of the past. All the girls have turned "free lance" or gone into legitimate work.

Caste is very distinct, even among prostitutes. House girls have most profound contempt for dance hall girls. This was well illustrated by a former negress chambermaid from a "white house," who, having both gonorrhea and syphilis, objected to a white seventeen-year-old street walker being placed in her quarters, saying, "Doc, won't yo-all put dot little chippie girl D. in another room? We's clean people heah, and might git diseases from her."

As a rule, the confirmed prostitutes from the houses, when placed in quarantine, were most ladylike in their actions. The housemaid, chambermaid, waitress, etc., usually were vile-mouthed, quarrelsome, unreliable creatures. The younger dance hall girl, street walker and beginner types usually came in repulsive, and later took on better characteristics. Old syphilis predominated among the old professionals. The street walkers and younger house girls most often had both syphilis and gonorrhea. The colored girls as a class were more refined than the white, and much more to be trusted. The few Indians took their internment as a matter of course, sat down to make the best of it and never gave any trouble.

Can the prostitute be permanently reformed? The younger may, but with the older it is questionable. They have expensive tastes and habits, and no occupation which will pay enough to provide these. They may reform for a while, but unless they marry or secure very remunerative work, more than likely they will return to the sporting life. The taste for an easy, fast life always remains. Some of the same girls, whom as police surgeon five years ago I saw placed in homes or given remunerative employment on their solemn promise to reform, backed by good intentions, are now interned.

The professional hates "sporting life" and wants to get away, but has during her fallen period learned too much. E. J., a younger one, expressed herself as being glad she was interned, so as to be treated. She also said, "What will you do with me when I get out? Get me a job at ten dollars a week, which is all I can get, as I never did a day's work in my life? I could live on it, but who wants to be like the camel, that live so long without a drink?"

The men living off vice have hitherto been one of the pitfalls in any moral issue. Every official elected by popular ballot tries to please the majority of his constituents. Every "mack" not only has his own vote, but controls the votes of others, so can demand recognition. Consequently elective officials attempt to interfere with any issue that discomforts the "boss."

The fact that men living off women's earnings also have been kept from society by internment or quarantine has probably done more toward the breaking up of the houses than any other thing, as it deprived the houses of their runners and protectors.

The saloon is a thing of the past; the bawdy house in the larger cities of Washington is gone. The hotel girl is going, and the opportunities for new girls to take up prostitution are almost to the vanishing point. The profession of prostitution is a dying profession. The next problem is handling the clandestine girl and preventing new girls entering.

We wish to thank Dr. McBride for the opportunity of collecting the statistics and learning the inner workings of vice; Dr. Lloyd for assistance in our prophylactic work among the soldiers and sailors; and our secretary, Dr. Thomson, for his able assistance in various ways.

964 Empire Bldg.

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EDITORIAL

FOURTH TRI-STATE MEETING.

The fourth tri-state meeting of the Pacific Northwest, held last month in Seattle, was an auspicious beginning for the second series of these triennial gatherings. Owing to many men being absent in war service and many events demanding the attendance of the profession, it was feared this meeting might fail to maintain the standard of similar meetings in the past. Such expectations, however, were not realized. In spite of all unfavorable features the attendance was excellent and in all respects the visitors considered the time well spent. The registration book showed 248 in attendance, of whom 52 were from Oregon, 101 from Washington outside of Seattle, 8 from Idaho, 4 each from Camp Lewis and U. S. Navy, with several other states represented. There was a large attendance from the profession of Seattle, altho only 74 took the trouble to register.

While the program presented comparatively few papers, the attendance at each session was unusually large, due in part probably to the absence of such counter attractions as clinics and exhibits. While these are commonly considered essentials of a successful meeting, their absence has its compensation in the concentration on the scientific papers presented. The presence of so many uniforms from the Army and the Navy helped to accentuate the war tone of the whole program. The personal demand on everyone to help to win the war was acutely presented by the address of Major Franklin Martin on the evening of the second day, by which he impressed upon everyone present his duty to enlist if within the proper age.

The most interesting feature of the meeting was the third day, spent at Camp Lewis. A visit to this great cantonment is an inspiraton to everyone and a revelation to one who sees it for the first time. Here is a constant demonstration of the fact that this government is engaged in a desperate war, for which the best manhood of the land is receiving the most modern preparation. In the great base hospital demonstrations were offered the visitors of the work which is being done to preserve the health of our great army and to make the soldiers fit for every duty. Here one observes a large body of interns who are busy every moment and accomplishing results which can be accurately estimated. This cantonment is an inspiring sight, of which everyone should take advantage. The evening was devoted to a dinner dance at the beautiful club house of the Tacoma Country and Golf Club, delightfully situated on the shore of American Lake. The interest in this event was demonstrated by the fact that dinner was served to more than 450 people. Everyone was unanimous in the opinion that this meeting was a memorable one and in every way a success.

THE CONQUEST OF VENEREAL DISEASES.

Never before has a nation so successfully attacked that hydraheaded monster, venereal disease, with such success as has been evidenced in this country during the period of the war. By the suppression of false modesty and existing prudery the facts concerning venereal diseases and the success of their treatment have obtained wide-spread publicity. While the army and navy have been most successful in attaining notable results from prophylaxis and treatment, many of the cities have been awakened to the possibility of obtaining results and are putting into effect similar methods. These results in the army and navy are due to the possibility of controlling the patients and enforcing treatment. This is most strikingly illustrated at Camp Lewis, where all venereal patients from 40,000 troops are segregated in a venereal division, whose chief object in life is the treatment of their ailments. They are constantly under guard, restricted in their liberty and required to perform only limited service until cured. Here one has an opportunity to observe the treatment of venereal diseases on a large scale with results obtainable. It is the purpose of the army authorities to permit no man to go overseas until cured of venereal infection. Our issue this month is devoted chiefly to papers read at the tri-state meeting relative to venereal diseases. They throw a great deal of light on the present situation of these maladies and offer the greatest encouragement in the belief of their future suppression. Such result however, is obtainable only thru the cooperation of the medical profession, the public and the victims themselves.

WAR SERVICE RECORD.

During the period of the war this journal will carry a roster of all men in war service from the four states which it represents. A prominent feature will be the roll of honor, recording the names of those who have died or have been killed in action. It will be our aim to add to this list from month to month, keeping it up to date as accurately as possible. To attain this result we solicit corrections of errors and additions for omissions which may inadvertently appear. With the cooperation of our readers we hope to maintain this as a useful and accurate feature of the journal.

NEW ADVERTISEMENTS.

Advertisements form the back bone and life of a magazine. None appear in this journal which have not been proven trustworthy and ethical and are therefore commended to the recognition and patronage of our readers. Attention is called to the following new advertisements appearing in this issue.

The Cutter Laboratory, of Berkeley, Calif., is known to all physicians on account of the vaccines, serums and other products produced by it. Information concerning it is presented on another page.

Armour and Company, of Chicago, have for many years offered products from glandular and other animal tissues which are of unquestioned value and reliability.

Fleischmann Company is a household name thruout the land by reason of its compressed yeast. It is well known that yeast has many valuable medical qualities which merit the consideration of physicians. This advertisement has appeared in one previous issue.

Cedar Crest Farm is a new sanitarium for the treatment of pulmonary tuberculosis, established at Portland. It is under the control and management of Dr. E. A. Peirce, one of the well known physicians of that city.

PHYSICIANS NEEDED BY THE RED CROSS.

The American Red Cross is calling for physicians as follows:

Two physicians and four men to help care for eyes and work in Russia.

Six physicians, some having experience with children's diseases and general hygiene.

Twenty-three general practitioners.

Twenty specialists for work among persons afflicted with tuberculosis.

Eight pediatricians. These need not be specialists exclusive but good general practitioners who have done special work with children.

Applications may be made to Dr. C. W. Sharples, Division Medical Adviser, 210 White Bldg., Seattle.

MEDICAL NOTES

Additional Enlistments. Since our last issue the following names have been received of physicians who have enlisted in war service, which have not hitherto been published in this journal:

OREGON.

MEDICAL OFFICERS' RESERVE CORPS.

Belknap, H. P., Portland.
Brown, F. J., Yale.
Firey, F. R., Portland.
Hockett, C. T., Enterprise.
Johnston, Wilson, Portland.
Lefevre, S. F., Bridal Veil.
Menne, F. R., Portland.
Morrison, A. D., Carlton.
Norton, W. H., Portland
Pieno, H. D. W., Hood River.
Sifton, J. W., Hood River.
Thompson, J. H., La Grande.
Wood, R. L., Amity.
Potheram, C. C., Portland.

U. S. NAVY.

Landis, Richard, Corvallis.

WASHINGTON.

Allen, J. A., Medical Lake.
Beckett, E. E., Seattle.
Booth, J. R., Seattle.
Crampton, J. H., Spokane.
Current, E. H., Spokane.
Demartini, S. A., Tacoma.
Gray, G. A., Spokane.
Hood, C. S., Ferndale.
Hughes, C. A., Ellensburg.
Johnson, A. C., Spokane
Jackson, W. L., Burlington.
Ingersoll, E. L., Spokane.
Jones, Ernest, Mt. Vernon.
Keeler, C. E., Yakima.
Mattson, W. W., Seattle.
Merritt, R. E., Yakima.
Read, W. D., Tacoma.
Steagall, J. B., Tacoma.
Steele, W. E., Olympia.
Torland, Torlief, Seattle.
Ulman, F. G., Enumclaw.
Wilson, C. E., Seattle.

U. S. NAVY.

Lieser, Ralph, Vancouver.

WITH ALLIES IN EUROPE.

Scott, W. R., Centralia.

IDAHO

Cromwell, J. H., Gooding.
Dimon, John, Elk River
Eames, Earl, Minan.
Newton, A. M., Pocatello.
Quigley, F. L., Wallace.
Shurtz, L. E., Boise.
Titus, W. S., Boise.

U. S. NAVY.

Cluen, R. J., Boise.

UTAH.

Critchlow, M. M., Salt Lake City.
Dannenberg, B. A., Hober.
Goeltz, F. A., Salt Lake City.
Pace, G. H., Murray.
Pugh, W. N., Salt Lake City.

OREGON.

Union of the City and County Hospitals. A movement toward economy and efficiency has been inaugurated in Portland in a conference of city and county commissioners for the purpose of consolidating the medical departments and hospitals of the two bodies. Duplication of work by two medical bodies in the same territory is a common abuse which should be corrected in all communities.

Meeting of the State Examining Board. Last month the Oregon Board of Medical Examiners held its meeting in Portland when 27 candidates were granted licenses to practice. The new licentiates are as follows: Richard Blackmore, J. Crahbert, Phebe L. Culver, Bertha Davidson, M. J. Evans, G. G. Gordon, E. C. Hackett, A. L. Hart, E. J. Jasper, Russell Keiser, O. H. Kent, Alma S. Larson, J. L. Lynch, Herman Manesson, K. H. Martzoff, N. E. McAlister, G. W. Montgomery, Walter Paine, W. A. Parett, W. F. Patrick, C. G. Rattner, Kathryn Reuter, G. M. Sewall, N. M. Wade, Ethel P. Westwood, S. L. Wilson and R. G. Young.

Aims of Chiropractics. The chiropractics of Oregon, as in other states, will assail the next session of the legislature to obtain more privileges in practice. At a recent meeting in Portland they demanded the privilege of giving anesthetics, treatment of their patients at the county farm, state hospitals and asylums, authority to sign death and birth certificates and examine for marriage certificates.

Opposition to Maternity Hospital. A proposition to erect a maternity hospital in a certain section of Portland has met with opposition of some people in the vicinity on the ground that it would lower the value of their property. This delusion concerning institutions of this character is frequently observed. The promoter of the institution claimed that most of the adjacent property was vacant and that the institution would be a benefit to the surrounding property.

Hospital Overcrowded. The state hospital for the insane at Salem is crowded to capacity, more commitments having been made in the last few months than ever before. Consequently patients are being sent to the eastern Oregon hospital at Pendleton.

In Charge of Detention Home. Dr. H. R. Cliff, of Portland, has been appointed by the U. S. Public Health Service to treat the inmates of the women's detention home of that city. There are 65 cases now under treatment.

Successful Medical Inspection. The Albany School Board will carry on more extensive medical inspection of the schools in consequence of the first year's work. Dr. G. E. Riggs has charge of this work. A system of compulsory physical training is also contemplated.

Increase of Smallpox. There has been a great increase of this disease in Portland, ten persons being now under treatment in the smallpox hospital, eighteen cases appearing in three weeks' time. Its spread has been especially feared among the shipyard employees, among whom a number of cases have developed. Universal compulsory vaccination is being recommended.

The Alumni Association of the University of Oregon has recently elected Dr. B. R. Brooks, of Portland, as its president, Dr. A. A. Whittam secretary and Dr. Katherine Manion treasurer. A service flag was dedicated containing 179 stars, three of them being gold.

Major Paul Rockey, of Portland, who has been in service at Camp Lewis, has been transferred to a post in Georgia. Captain Eugene E. Rockey, who has also served at Camp Lewis, has been transferred to Camp Zachary Taylor in Kentucky.

Dr. D. J. Plamondon, of Pendleton, has returned home from France, where he has been serving on the hospital staff of an Oregon unit.

Dr. V. C. Statts, of the Dalles, has been seriously ill with septicemia, contracted from an operation on the tonsils, during which he received a scratch on a finger.

Dr. E. A. Sommer, of Portland, who has the rank of Captain in the Medical Reserve Corps, has gone to Camp Lewis for service at the Base Hospital.

Dr. E. L. Zimmerman, of Eugene, was home on a visit last month from Ft. Riley, Kas., where he is stationed in army service.

Dr. H. D. W. Pieno, of Hood River, 1st Lieut., M. R. C., has gone to the Philippines where he has been detailed for duty.

Dr. Ralph C. Matson, of Portland, who has served for some time as tuberculosis specialist at Camp Lewis, has received a commission as Major and been assigned to active duty.

Dr. C. J. McCusker, of Portland, who received his commission of Captain in January, has been ordered to report to Fort Oglethorpe, Ga.

Dr. W. P. Chisholm, of Gold Hill, was recently commissioned Lieutenant, M. R. C., and has been assigned to active duty at Presidio, Calif.

Dr. Richard Landis, of Corvallis, who recently enlisted in the navy, has been ordered to report for duty at Bremerton.

WASHINGTON.

The Washington Association for the Prevention and Relief of Tuberculosis held its annual meeting last month in Seattle. A program was presented by well known men and women dealing with various aspects of the tuberculosis problem. This organization devotes its energies to the establishing of tuberculosis sanatoria in different counties of the state and gives instructions to the people on tuberculosis problems. Under its auspices Mrs. B. H. Bartlett, R. N., of New York, has recently conducted a course of special instruction to graduate nurses at the University of Washington.

The State Board of Health will change its location in Seattle to quarters provided at the University of Washington. By this move increased laboratory facilities will be provided and additional accommodations for its work can be obtained in close association with other state departments.

Health Board Fight for Quarantine. The health department of Seattle has been engaged in a legal contest of interest to every city in the state which maintains a quarantine against venereal diseases. Two patients restrained in the city stockade sought their liberty by habeas corpus proceedings on the ground that they were not diseased. The health department refusing the examination ordered by the superior court, the case was appealed to the supreme court. The decision of the latter will have an important bearing on the right of a city to enforce restraint and treatment for venereal disease.

Medical Board Sustains Doctor. For many months charges of immorality against Dr. F. A. Wagner, of Harrington, have been presented to the State Board of Medical Examiners for the purpose of revoking his license to practice. At the meeting of the Board in Tacoma last month it exonorated the doctor, claiming that the charges grew out of reports circulated by a rival physician who confessed that he was responsible for the charges which were inspired by professional jealousy.

Pro-German Doctors Interned. At its meeting last month the Board of Medical Examiners considered the status of certain pro-German physicians. It is stated that five are now interned in alien detention camps by government authority, whose identity, however, is not disclosed. Measures were taken to revoke the licenses of these men. It is said that there are a number of other physicians in the state whose loyalty is questioned and if charges against them are sustained their licenses will be revoked. It is proposed that no man who is not 100 per cent. American shall be permitted to practice in the state.

Opposition of Sanitarium. In Spokane a fight has been carried on against a sanitarium for the treatment of drug habitues which has desired a certain location in a residence district. The opposition claimed that its proximity to residences and a school house should forbid its establishment. An effort was made to force it entirely outside of the city limits.

Medicine Company Convicted. Last month the Kar-Ru Chemical Company, of Tacoma, was convicted in the United States court for misbranding patent medicines, in violation of the Pure Food and Drugs act. A number of prominent physicians testified to the falsity of the claims of cure of the patent medicines sent thru the mails, bearing the names of Kar-Ru, Gon-Nol, Kar-Nitum, Kur-Kol.

Home from Rumania. Dr. W. D. Kirkpatrick, of Bellingham, of the American Red Cross, has returned from service in Rumania, where he had many interesting and thrilling experiences. He left for service in that country last October, and left Jassy in March, fifteen miles ahead of the invading Germans. He witnessed the destruction of a nation and the disbandment of its army, due to traitorous leaders. The American Red Cross was the one bright spot in the gloom of the nation's experiences.

New Naval Hospital Unit. Dr. H. S. Titus, of Spokane, has received orders from Washington to organize a naval hospital unit. This unit will be organized with a surgeon, a physician, an eye, ear, and nose specialist, a laboratory man and an x-ray specialist. Fifteen nurses will go with the unit.

Medical Staff for New Railroad. Drs. Wm. Dutton, of Portland, and T. A. Russell, of Spokane, have formed a company and taken a contract for medical work on the new railroad, mill and logging camp building out of Port Angeles. They will establish five hospitals, one at Tedmont, two at Lake Pleasant and two at other lakes.

Home Destroyed by Fire. Last month the residence of Dr. C. Quevli, of Tacoma, was destroyed by fire. This was a large residence rented for the summer, while Dr. Quevli and family were absent. The loss is estimated at $20,000.

Dr. J. W. Mowell, medical advisor of the Industrial Insurance Commission, has returned to his work in Olympia after a long serious illness from pneumonia and empyema.

Dr. Morton Meyers, of Davenport, has moved to Harrington, where he has taken the practice and hospital of Dr. Patrick.

Dr. L. G. Spaulding, of Kennewick, Lieutenant, M. R. C., has been assigned to duty at the army camp at Savanha, Ill.

Drs. C. R. McCreery, of Tacoma, and H. H. Slater, of Deer Park, Captains, M. R. C., who have been in service at Camp Lewis, have been ordered to San Francisco for a special course in bone surgery.

Dr. F. L. Wood, of Lynden, has returned home from New York, where he was ill for two months in a military hospital with rheumatism. He was stationed for a time at Ft. Riley and was taking post graduate work at New York when taken sick.

Dr. A. D. Schlattauer, of San Francisco, has located at Toledo, where he has taken the practice of Dr. C. P. Getzlaff, who has located at Priest River, Ida.

Dr. Wm. Atwood has located at Touchet. He is a native of Waitsburg and has recently graduated in medicine.

Dr. W. R. Scott, of Centralia, has received a Captain's commission in the Canadian army. He has been assigned to duty at Camp Willows, Victoria.

Dr. R. G. Ulman, of Enumclaw, who has received a commission in the M. R. C., has been assigned to duty at Fort Riley, Kas.

Dr. A. C. Johnson, of Spokane, recently commissioned in the M. R. C., has been assigned to duty at Camp Lewis.

Dr. P. L. West, of Riverside, has been commissioned for service with the American Red Cross. He has gone to New York on his way to France.

Dr. P. I. Carter, of Port Townsend, who has been serving for some months at Camp Lewis, has been ordered to Camp McPherson, Ga.

Drs. E. E. Becket and Torlief Torland, of Seattle, have been commissioned Captains in the M. R. C. They have not yet been assigned to duty.

Dr. W. E. Steele, of Olympia, who has been commissioned First Lieutenant in the M. R. C., has been assigned to duty at Fort Riley, Kas.

Dr. H. Y. Bell, of Centralia, Captain, M. R. C., has been for the past year taking a course in surgery at Harvard Medical School. He has been assigned to duty at Fort Lee, Va.

Medical Wedding. Dr. W. S. Wallace, of Newport, a captain in the Medical Corps of the British army, has recently returned from France and the Balkans and last month was married to Miss Louise Boggs, of Lewiston, Ida.

IDAHO.

Dr. W. S. Titus, of Boise, who was recently commissioned in the Medical Officers Reserve Corps, has left for Camp Lewis.

Dr. R. J. Cluen, of Boise, who has been commissioned in the U. S. navy, has been assigned to duty at the Puget Sound Navy Yard at Bremerton.

Dr. F. L. Quigley, of Wallace, recently commissioned Captain in the M. R. C., has been ordered to report for duty at Camp Oglethorpe, Ga.

Dr. L. E. Shurtz, of Boise, has been commissioned Captain, M. R. C., and will soon leave for service.

OBITUARIES.

Dr. Holt C. Wilson, of Portland, Ore., died July 7, following an operation four days previously. He was born in Portland in 1854, where he received his early schooling. He graduated from University of Virginia in 1876 and studied medicine at Bellevue Hospital Medical School, New York, where he graduated in 1877. After spending a year as intern in a hospital of that city, he returned to Portland, where he practiced until the time of his death. He has the care of Dr. R. B. Wilson, one of Portland's pioneer physicians. He was one of the city's leading physicians and for years was prominent in political circles. He was professor of surgery at the University of Oregon Medical School and medical director of the Columbia Life Insurance Company.

Dr. J. S. Cross, of Bellingham, Wash., died July 6 from disease of the heart. Altho in poor health his death was unexpected. He was born in Verginia in 1834. He graduated from Jefferson Medical College in Philadelphia at the outbreak of the civil war. He left college to enter the southern army and served until the end of the war. At that time he moved to Indiana for the practice of medicine and in 1890 located in Bellingham, where he was in active practice for seventeen years. He was of a genial and happy disposition, a humorist and a champion trout fisherman. He had a wide circle of friends and was beloved by a host of patients.

Dr. J. W. Padget, of Monroe, Wash., died July 18 of disease of the heart after an illness of a few hours. He was born in Missouri in 1863. He graduated from the St. Louis University in 1894. Four years later he moved west and was the government physician at the Nez Perce Indian Reservation, Ida. Later he practiced at Palouse for about a year and subsequently went to Wyoming. He engaged in politics and was elected to the state senate. He then moved to Utah, where he practiced for about three years. He went to Puget Sound for his health a few months ago.

Dr. John Huntington, of Kelso, Wash., died at Portland, July 14. He was born in Kelso in 1860 and was a well known physician of Southern Washington.

Diphtheria Carriers in Army Camps.—C. P. McCord (Detroit), Alfred Freidlander (Cincinnati), and R. C. Walker (Sewanee, Tenn.), all of Camp Sherman, Chillicothe, Ohio (Journal A. M. A., July 27, 1918), have studied the problem of diphtheria and other disease carriers in an army base hospital. The overcrowding of the hospital at Camp Sherman caused a survey to be made to meet the conditions. It developed that the desired end might in part be obtained by prompt and intensive treatment of the trivial conditions causing large numbers of hospital admissions. It was noted that the average stay was long for a group of patients not carry disease on discharge. Although the cause of scarlet fever is not established the hospital status of recovered patients after the active stage is that of carriers. Diphtheria, however, is the chief factor in producing disease carriers. Among the average 40,000 present at the camp sixty-three cases of diphtheria have been detected. The protective procedures available and adopted which are described in the report were the Schick reaction, the toxin-antitoxin reaction, the use of prophylactic antitoxin, virulence tests, cultural methods applied to the whole naso-pharynx and in addition to these such general measures as closer attention to complaints of sore throats and reference of the patient to the laboratory for diagnosis.

Base Hospital Amputations.—Kellogg Speed, Chicago (Journal A. M. A., July 27, 1918), says base hospital amputations may be roughly divided into two classes, first, those that are indicated on the arrival of the wounded from the clearing stations, and, second, those required much later. In the first are included the early gas infections, fulminating sepsis of large joints and bone injuries, and rush cases requiring amputation at once. In the second group might be placed the secondary hemorrhage from limb injuries, septic limbs with or without gunshot fractures, septic joints, late gangrene from primary vessel injury, and trench foot. In face of tetanus, operation is not done. He believes that more patients suffer from delayed acceptance of the need of amputation, thus failing to survive the operation, than other patients are mutilated by early amputation or operation before one would consider the need absolute in civil life. Hence he offers the guarded advice in view of the insidious sepsis of war wounds: Make the indication rigid but amputate early. The prompt reaction of wounded soldiers from early and indicated amputations is striking. He gives an analysis of the cases observed by him which he considers support his view, and describes the technic favored as the result of his experience.

WAR SERVICE RECORD

OREGON.

ROLL OF HONOR.

Bellenger, J. E., Salem, M. R. C., U. S. A., died in service.
Denny, M. J., Portland, M. R. C., U. S. A., died from pneumonia at Camp Lewis, Wash.
Miller, W. L., Pendleton, died in war service in France, May 28, 1918.
Pratt, F. S., North Bend, M. R. C., U. S. A., died from pneumonia at Fort Riley, Kas.
Yielding, A. T., Portland, U. S. N., died from cerebrospinal meningitis, July, 1917, at Bremerton, Wash.

MEDICAL OFFICERS' RESERVE CORPS.

Abele, J. G., Portland.
Abraham, V. R., Hood River.
Adix, H. V., Estacada.
Allison, H. T., Heppner.
Anderson, E. E., Portland.
Anderson, H. J., Corvallis.
Barling, E. A., Portland.
Bartle, I. B., North Bend.
Barlett, C. J., Vale.
Bates, C. E., Salem.
Bean, H. C., Portland.
Belknap, H. P., Portland.
Bell, L. P., Ft. Stevens.
Bellinger, I. E., Sweet Home.
Belt, W. C., Newport.
Benson, R. L., Portland.
Benyas, N. M., Portland.
Besson, L. S., Portland.
Bevis, E. M., The Dalles
Billington, Chas., Portland.
Birney, V. C., Portland.
Biswell, Roger, Haines.
Blachly, A. T., Portland.
BoDine, C. E., Portland.
Boslough, A. W., Ashland.
Botkin, A. W., Portland.
Bouvy, Harry M., La Grande.
Boyden, G. L., Pendleton.
Brill, I. C., Portland.
Brown, E. H., McMinnville.
Brown, F. J., Yale.
Buck, G. H., Portland.
Bush, E. R., Ft. Canby.
Butler, F. E., Hot Lake.
Byrd, R. D., Salem.
Cahill, R. W., Portland.
Carl, G. G., John Day.
Carruth, H. E., Yamhill.
Cheshire, W. L., Roseburg.
Chisholm, W. P., Gold Hill.
Chilton, L. W., Canyon City.
Clancy, R. W., Medford.
Clay, H. E., Salem.
Coberth, Thompson The Dalles.
Coffen, T. H., Portland.
Colbert, S. M., Portland.
Cramer, I. H., Portland.
Craver, R. B., Yamhill.
Crockett, E. N., Portland.
Cropp, C. S., Salem.
Dalton, E. C., Portland.
Dammasch, F. H., Portland.
Darrow, G. E., Eugene.
Denny, M. J., Portland.
DeVere, B. F., Oakland.
Dickinson, S. B., Portland.
Dillehunt, R. B., Portland.
Dodds, H. C., Dufur.
Dodine, C. O., Portland.
Douglas, G. H., Portland.
Elwood, J. L., The Dalles.
Ellison, S. J., West Union.
Everett, E D., Lakeview.
Fawcett, A. J., Riddle.
Fenton, R. A., Portland.
Fields, R. H., Gardiner.
Finch, A. A., Astoria.
Firey, F. P., Portland.
Fox, M. C., Lakeview.
Frost, C. E., Portland.
Garner, J. L., New Pine Creek.
Garnjobst, J. H., Salem.
Gaunt, G. G., Hardman.
Gilbert, J. A., Portland.
Graham, J. P., La Grande.
Grant, D., Portland.
Greene, H. M., Portland.
Gregory, V. B., Joseph.
Gullian, W. T., Eugene.
Hamilton, N. B., Portland.
Hamilton, R. R., Klamath.
Hart, F. C., Portland.
Hawke, C. E., Forest Grove.
Hector, E., Springfield.
Hempstead, W. E., Oregon City.
Higgins, T. J., Baker.
Hockett, C. T., Enterprise.
Holland, L. G., Portland
Houck, G. E., Roseburg.
Howard, M. G., Junction City.
Hughes, J. A., Portland
Hynson, G. L., Portland.
James, R. J., Portland.
Johnson, W. T., Corvallis.
Johnston, Wilson, Portland.
Jones, M. J., Portland.
Jones, N. W., Portland.
Joseph, E. C., Corvallis.
Joyce, T. M., Portland.
Kane, E. J., Portland.
Kauffman, H. R., Forest Grove.
Keizer, P. J., North Bend.
Kinney, A. E., Astoria.
Kester, Eugene, Springfield.
Kettle, W. W., Woodburn.
Kinney, K. W., Astoria.
Kleinsorge, R. E., Silverton.
Krick, C. A., Oswego.
Kuykendall, J. E., Eugene.
Knox, W. S., Portland.
Knox, W. S., Portland.
Ladd, W. S., Portland.
LaFerto, A. D., Portland.
Lefevre, S. F., Bridal Veil.
Lewis, F. D., Salem.
Lieuallen, F. A., Portland.
Love, D. P., Eugene.
Low, G. E., Coquille.
MacKenzie, K. A. J., Portland.
Manion, W. O., Portland
Mann, S. J., Bandon.
Marcellus, M. B., Portland.
Matson, R. W., Portland.
Matthis, J. O., Monmouth.
McCollom, J. W., Portland.
McCool, C. R., Portland.
McCowen, A. C., Cove.
McCusker, C. J., Portland.
Menne, F. R., Portland.
Menzies, C. S., Portland
Miller, T. H., Eugene.
Miller, D. F., Bend.
Milnor, G. C., Portland.
Mingus, E., Marshfield.
Moore, C. S., Imber.
Moore, H. B., Portland.
Moore, C. S., La Grande
Moran, K. P., Portland.
Morrison, R. D., Carlton
Morrow, E. V., Portland
Morse, E. W., Portland.
Mott, L. H., Ft. Stevens.
Mount, F. R., Oregon City.
Mount, H. S., Oregon City.
Murphy, F. P., Portland.
Myers, E., Portland.
Nichols, H. S., Portland.
Norton, W. H., Portland
Palmer, C. H., Mabel.
Palmer, D. L., Portland.
Pargon, J. A., Portland.
Parpola, Janfred, Astoria.
Patterson, O. E., Southerlin.
Paulson, N. P., Portland.
Pearce, L. M., Baker.
Phillips, W. J., Corvallis.
Pieno, H. D. W., Hood River.
Plamondon, J. D., Pendleton.
Pollard, W. H., Springfield.
Porter, E. H., Medford.
Potheram, C. C., Portland.
Pratt, F. S., North Bend.
Prince, G. E., Falls City.
Prinsing, Jacob, Ontario.
Racer, F. H., Woodward.
Ralston, F. L., La Grande.
Rankin, J. S., Newberg.
Robbins, C. W., Gold Beach.
Roberg, D. N., Portland.
Roche, V. L., Woodburn.
Rockey, E. W., Portland.
Rockey, A. E., Portland.
Rockey, Paul, Portland.
Rosenberg, J. H., Prineville.
Rosenberg, H. L., Portland.
Rosenfield, A. S., Portland.
Ross, D. R., Salem.
Saunders, C. S., Brookings.
Scaiefe, B. F., Eugene.
Schaife, B. F., Eugene.
Scott, W. G., Portland.
Sears, C. E., Portland.
Sefton, J. W., Hood River.
Selling, Lawrence, Portland.

Sellwood, J. J., Portland.
Sharkey, R. L., Portland
Shaw, H. M., Marshfield.
Shea, W. A., Portland.
Shoot, H. E., Portland.
Sifton, J. W., Hood River.
Skene, W. H., Portland.
Smith, A. W., Portland.
Smith, C. H., Weston.
Smith, R. L., Portland.
Smith, W. C., Salem.
Snider, C. N., Portland.
Sommer, E. A., Portland.
Spalding, L. M., Pilot Rock.
Stearns, R. W., Medford
Standard, S. C., Huntington.
Steelhammer, H. W., Silverton.
Stewart, J. A., Portland.
Straw, E. E., Marshfield.
Streitz, E. H., Portland.
Stewart, W. E., Portland.
Story, L., Portland
Stricker, F. D., Grant's Pass.
Strohm, J. G., Portland.
Swenson, E. J., Portland
Taylor, W. R., Milwaukee.
Tharp, H. J., Pendleton.
Thompson, J. H., La Grande.
Tiedemann, A. W., Baker.
Traux, J. P., Grant's Pass.
Underwood, H. L., La Grande.
Van Doren, F., Seaside.
Van Dusen, Arthur, Astoria.
Vehrs, G. R., La Grande.
Vincil, F. H., Roseburg.
Vincent, L. H., Crane.
Vose, W. H., Portland.
Wade, B. N., Portland.
Waffle, E. B., Astoria.
Wainscott, C. O., Hermiston.
Wallace, B. R., Albany.
Waller, E., Eugene.
Waugh, J. M., Hood River.
Webb, J. E., Mt. Angel.
Welsh, O. A., Oregon City.
Wetherbee, J. R., Portland.
Wheeler, C. E., Klamath Falls.
Wheeler, R. H., Eugene
White, C. S., Portland.
Whitney, E. L., Portland
Wight, O. B., Portland.
Wight, O. B., Portland.
Willington, R. H., Portland.
Wilson, G. F., Portland.
Wood, Frank, Portland.
Wood, J. F., Portland.
Wood, R. L., Amity.
Wooden, J. L., Clatskanie.
Yenney, R. C., Portland.
Ziegelman, E. F., Portland.
Zimmerman, E. L., Eugene.

U. S. NAVY.

Bell, J. F., Portland.
Blakely, C. L., Baker.
Daus, E. A., Portland.
Dellar, T. A., Portland.
Farrior, J. B., Portland.
Fortmiller, G. E., Albany.
Gaston, J. E., Astoria.
Ghormley, J. C., Portland.
Harding, Harry, Portland.
Hart, H., Medford.
Hitchcock, E. D., Portland.
Jewell, J. D., Portland.
Johnson, J. R., Joseph.
Jones, W. W., Jordan Valley.
Landis, R. P., Corvallis.
Manion, J. L., Portland.
McMurdo, P. F., Portland.
Montgomery, G. W., Falls City.
Saurman, J. S., Burns.
Scott, E. K., Portland.
Sinclair, J. A. B., Portland.
Smith, W. E., Portland.
Spencer, W. O., Portland.
Steinmetz, E. P., Portland.
Story, Geo. B., Portland.
Strong, H. L., Portland.
Thatcher, H. V., Portland.
Wade, C. B., Roseburg.
Warner, D. H., Portland
White, R. F., Portland.
Whiteside, G. S., Portland.
Young, R. G., Portland.

WASHINGTON.

ROLL OF HONOR.

Green, A. de Y., Prosser, Captain M. O. R. C., Graduate of Georgetown University, 1901. Died Nov. 15, 1917.

Hill, R. C., Irondale, Captain M. O. R. C., Graduate of Cincinnati Medical College, 1892, and McGill University, 1906. Died April 18, 1918.

Laws, C. E., Tacoma, Lieutenant, M. O. R. C., Graduate of Ohio Medical College, 1899. Died April 21, 1918.

MEDICAL OFFICERS' RESERVE CORPS.

Adams, J. W., Waterville.
Ahlman, E. R., Hoquiam.
Allen, J. A., Medical Lake.
Allen, R. A., Tacoma.
Anderson, A. E., Hoquiam.
Anderson, F. W., South Bend.
Argue, H. E., Tacoma.
Austin, O. R., Aberdeen.
Axtell, W. H., Bellingham.
Barry, S. D., Puyallup.
Baumgarten, R. C., Seattle.
Beatty, J. F., Everett.
Beckett, E. E., Seattle.
Beebe, O. E., Bellingham.
Beeler, G. W., Seattle.
Bell, H. Y., Centralia.
Benedict, C. C., Seattle.
Betts, A., Spokane.
Betts, C. A., Seattle.
Bickford, E. L., Seattle.
Bickford, F. J., Centralia.
Bird, F. A., Kelso.
Black, F. A., Seattle.
Blair, F. M., Lyman.
Blair, H. B., Tacoma.
Blair, J. B., Vancouver.
Boone, W. H., North Yakima.
Booth, J. R., Seatle.
Brachvogel, N. W., Montesano.
Brand, W. W., Rosalia
Brandt, W. H., Auburn.
Brobeck, C. J., Tacoma.
Brooks, S. G., Anacortes
Brown, H. D., Mt. Vernon.
Brown, L. C., Seattle.
Brujes, D. G., Dayton.
Bryant, F. A., Colfax.
Buckner, H. T., Seattle.
Burdick, C. M., Kent.
Burg, W. A., Uniontown
Burke, R. T., North Bend.
Butts, C. E., Spokane.
Byrne, J. G., Spokane.
Calhoun, A. P., Seattle.
Campbell, D. R., Pullman.
Carroll, F. M., Seattle.
Carter, P. I., Port-Townsend.
Cassell, R. J., Mt. Vernon.
Cassels, W. G., Seattle.
Chambers, J. M. P., Vancouver.
Charlton, W. R., Spokane.
Chase, R. J., Dayton.
Clark, T. G., Everett.
Clizer, C. B., Tekoa.
Clough, H. B., Okanogan.
Collier, L. B., Seattle.
Collins, F. H., Goldendale.
Collins, I. S., Spokane.
Conway, N. W., Medical Lake.
Cornett, G. W., Yakima.
Corson, W. H., Seattle.
Couche, J. D., Twisp.
Cowan, C. B., Seattle.
Cox, E. W., Monroe.
Cox, S. L., Mt. Vernon.
Cox, W. C., Hartline.
Crampton, J. H., Spokane.
Cullen, F. J., Napavine.
Cunningham, W. F., Seattle.
Curren, Thomas, Tacoma.
Current, E. H., Spokane.
Cutliffe, W. O., Seattle.
D'Arc, H. T., Mt. Vernon.
Davidson, C. F., Seattle.
Day, W. W., Dayton.
Delaney, F. D., Tacoma.
Demartini, S. A., Tacoma.
Dewey, L. S., Okanogan.
DeWitt, Jr., C. H., Tacoma.
DeWitt, C. H., Tacoma.
Dulin, C. T., North Yakima.
Durrant, J. A., Snohomish.
Duryee, A. P., Everett.
Eagleson, J. B., Seattle.
Eaton, C. E., Seattle.
Edwards, J. W., Port Townsend.
Edwards, Orange, Seattle.
Eldridge, J. L., Snohomish.
Elmore, S. G., Pasco.
Elvins, Spokane.

Engels, C. F., Seattle.
Everly, Walter, Seattle.
Fales, J. E., Eatonville.
Falk, F., Seattle.
Farley, R. H., Spokane.
Farmer, G. W., Greenacres.
Fassett, F. J., Seattle.
Fick, E. P., Seattle.
Findley, H. P., Everett.
Fleming, B. E., McCleary.
Frazee, C. M., Sedro Woolley.
Gammon, C. P., Tacoma
Gardner, F. P., Seattle.
Gerhardt, A. E., Wenatchee.
Ghering, R. L., Spokane
Glenn, C. R., Kelso.
Goodenow, L. L., Aberdeen.
Goetter, R. F., Colville.
Gould, A. R., Kent.
Gray, G. A., Spokane.
Griffith, T. E., Ft. Simcoe.
Groenlund, W. G., Seattle.
Grove, C. E., Spokane.
Hall, D. C., Seattle.
Hamblen, R. N., Spokane.
Hamber, C. A., Clewelah
Harris, J. L., Pullman.
Harbaugh, C. C., Sedro-Woolley.
Harrison, J. I. M., East Sound.
Helton, A. J., Yakima.
Henby, A. E., Seattle.
Henderson, J. M., Seattle.
Hendricks, R., Spokane.
Hewitt, H. H., Seattle.
Hill, B. B., Colfax.
Hill, Elmer, Walla Walla.
Hill, R. C., Irondale.
Holtz, K. J., Seattle.
Hood, C. S., Ferndale.
Hooper, C. D., Richland.
Hopkinson, L., Aberdeen.
Hough, W. J., Tacoma.
Hubbard, F. L., Spokane.
Hughes, C. A., Ellensburg.
Hunt, John, Seattle.
Hunter, R. F., Hoquiam.
Hunter, C. D., Tacoma.
Hurd, E. T., Seattle.
Hurley, V. J., Hoquiam.
Hyde, F. T., Port Angeles.
Ingersoll, E. L., Spokane.
Jackson, W. L., Burlington.
Janes, E. W., Tacoma.
Johnson, A. C., Spokane
Johnson, W. R., Chehalis.
Joiner, W. E., Seattle.
Jones, C. W., Elma.
Jones, E. O., Seattle.
Jones, Ernest, Mt. Vernon.
Jones, W. J., Colville.
Jonez, H. D., Tacoma.
Judah, J. S., Leavenworth.
Judd, H. S., Tacoma.
Kane, J. P., Tacoma.
Kane, J. P., Tacoma.
Kantner, W. C., Seattle
Karshner, W. M., Puyallup.
Keeler, C. E., Yakima.
Kellam, C. C., Port Blakely.
Keslina, O. G., Arlington.
Kelton, Walter, Seattle.
Kinne, J. D., Aberdeen.
Kintner, W. C., Seattle.
Klamke, E., Port Gamble.
Kniskirn, E. L., Centralia.
Knott, H. J., Seattle.
Knox, J. F., Almira.
Lacey, M. J., Auburn.
Lambert, S. E., Spokane.
Lapidrewski, C., Seattle.
Lauman, N. M., Randall
Laventue, L. A., Ritzville.
Laws, C. E., Tacoma.
Leach, E. C., Edison.
Leiser, H. C., Vancouver.
Lemmon, F. J., North Yakima.
Lessing, A., Seattle.
Livingston, D., Centralia.
Lloyd, B. J., Seattle.
Lundgren, A. R., Spokane.
Lupton, Irving, Spokane.
Lyon, R. H., Bothell.
MacDonald, J. F., Hoquiam.
MacLean, A. B., Pe Ell
Makins, H. M., Selah.
Mapes, J. A., Index.
Marcy, G. E., Montesano.
Martin, H., Cashmere.
Matson, W. W., Tacoma
Matthews, J. D., Spokane.
Mattice, A. F., Seattle.
Mattson, W. W., Seattle.
McClure, W. L., North Yakima.
McCreery, C. R., Tacoma.
McNerthney, W. B., Tacoma.
McIntyre, D., St. John.
McKibben, E. A., Seattle.
McKibben, J. A.. Colfax.
Merritt, R. E., Yakima.
Mertz, E. F., Concrete.
Miller, H. L., McMurray
Mitchell, W. A., Colfax.
Mitchell, W. B., Sumner
Monroe, D. D., Chewelah.
Monro, W. A., Tacoma.
Montague, E. A., Tacoma.
Montgomery, C. E., Walla Walla.
Moore, R. P., Davenport.
Moore, R. A., Tacoma.
Morse, R. A., Tacoma.
Morse, W. H., Spokane.
Murphy, G. E., Olympia.
Nace, A. G., Tacoma.
Nather, F. B., Spokane.
Nelson, I. A., Spokane.
Newell, R. I., Spokane.
Newgord, J. G., Yakima.
Null, M. M., Seattle.
Nynall, Y. J., Seattle.
O'Brien, H. B., Pasco.
O'Shea, W. M., Spokane
Osterman, A. J., Mt. Vernon.
Ostrom, H. C., Seattle.
Overmeyer, G. W., Seattle.
Palmer, W. G., Seattle.
Parker, W. J., Cashmere.
Parr, R. L., Spokane.
Parsens, I. W., Everett.
Partlow, K. L., Olympia
Pasco, James, Tacoma.
Patee, E. P., Pullman.
Paul, B. E., Tacoma.
Paul, L. W., Ilwaco.
Payne, W. H., Sedro-Woolley.
Peacock, A. H., Seattle.
Pennock, W. J., Spokane.
Penney, W. B., Tacoma.
Perry, E. R., Raymond.
Perry, R. W., Seattle.
Phillips, G. W., Everett.
Phillips, G. W., Everett.
Pirot, B., Ferndale.
Plummer, Copeland, Seattle.
Pontius, N. D., Seattle.
Pope, E. F., Spokane.
Powell, I. W., Bellingham.
Pratt, W. A., Walla Walla.
Purdy, J. S., Sultan.
Randolph, H. C., Aberdeen.
Raub, J. B., Spokane.
Read, W. D., Tacoma.
Read, H. M., Seattle.
Reed, C. O., Friday Harbor.
Reinhardt, W. R., Spokane.
Rhea, E. B., Tacoma
Rich, E. A., Tacoma.
Richards, E. A., Coulee City.
Ridpath, P. C., Spokane
Robertson, J. B., Tacoma.
Roberts, N. E., Olympia.
Robinson, F. C., Walla Walla.
Robinson, H. H., Creston.
Ristine, E. F., Coupeville.
Rohrer, A. P., Spokane.
Rose, R. F., Spokane.
Rose, J. W., Touchet.
Sawyer, E. D., Sultan.
Sayer, J. H., Seattle.
Shaw, G., Anacortes.
Sheets, J. H., Buckley.
Schrock, E. B., Seattle.
Schroeder, F. H., Tacoma.
Schutt, Ray, Bremerton.
Sheafe, E. V., Winlock.
Shryock, H. W., Sumas.
Siebert, A. W., Wenatchee.
Simms, L. B., Tacoma.
Simpson, A. U., Seattle.
Slater, H. H., Deer Creek.
Smeal, J. S., Tacoma.
Smith, E. H., Seattle.
Smith, J. S., Bellingham
Smith, R. P., Seattle.
Soll, C. H., Monroe.
Spaulding, L. G., Kennewick.
Sprowl, F. G., Spokane.
Steagall, J. B., Tacoma.
Steele, W. E., Olympia.
Stewart, J. K., Everett.
Stewart, A. C., Ft. Steilacoom.
Stith, R. M., Seattle.
Stryker, R. S., Ridgefield.
Suttner, C. N., Walla Walla.
Swachkamer, W. B., Montesano.
Swift, G. W., Seattle.
Sweet, R. L., Enumclaw
Taylor, W. H., Port Angeles.
Taylor, C. L., Sumner.
Thompson, A. W., Yelm
Thompson, A. W., North Yakima.
Thompson, H. B., Seattle.
Thompson, J. D., Marysville.
Thompson, L. M., Spokane.
Tooker, R. M., Seattle.
Torland, Torlief, Seattle.
Trask, L. S., Burlington.
Trueblood, D. W., Seattle.
Tullar, A. G., La Crosse
Turner, P. A., Seattle.
Turner, W. K., Seattle.
Turner, J. R., Tacoma.
Ulman, F. G., Enumclaw.
Upshaw, H. L., Tacoma

Vanderboget, C. L., Seattle.
West P. L., Riverside.
West, E. S., North Yakima.
West, P. C., Seattle.
Wheeler, E. C., Tacoma.
Wheeler, H. E., Spokane.
Whitacre, H. J., Tacoma.
White, E. W., Castle Rock.
Whitney, C. E., Sumner.
Whittaker, F. J., Republic.
Wickman, F. W., Tenino.
Wick, W. W., Sumner.
Wilcox, C. C., Vancouver.
Willard, H. G., Tacoma.
Wilson, C. E., Seattle.
Wilson, C. S., Tacoma.
Wilt, F. T., Steilacoom.
Wood, C. B., Seattle.
Wood, F. L., Linden.
Wood, N. P., Seattle.
Yocom, J. R., Tacoma.

U. S. NAVY.

Baldwin, T. C., Port Orchard.
Clancy, F. J., Seattle.
Clerf, L. K., Ellensburg
Col, H. E., Seattle.
Darby, J. J., Pomeroy.
Elmore, Bruce, Seattle.
Hooker, S. V. R., Seattle.
Merritt, W. D., Seattle.
Maxson, F. T., Seattle.
LaMott, H., Manette.
Lieser, Ralph, Vancouver.
Murphy, Thomas, Oaksdale.
Parry, I. A., Seattle.
Richardson, Waldo, Seattle.
Smalley, R. B., Seattle.
Swart, D. S., Woodland.
Tinney, C. M., Bremerton.

WITH ALLIES IN EUROPE.

Audic, J. M., Spokane.
Eikenbary, C. F., Spokane.
Ewing, G. H., Vashon.
Frost, W. S., Spokane.
Graves, J. C., Spokane.
Hemmeon, J. A. M., Seattle.
Ireland, G. O., Tacoma.
Jento, C. P., Seattle.
Kirkpatrick, W. D., Bellingham.
Locke, J. A., Index.
Manning, J. B., Seattle.
McKee, J. A., Seattle.
Murray, D. A., Seattle.
Neff, J. M., Spokane.
Reid, Peter, Spokane.
Sargentich, Spiro, Tacoma.
Scott, W. R., Centralia.
Seagrave, Mabel, Seattle.
Stockwell, H. K., Monroe.
Wallace, W. S., Spokane.

IDAHO.

MEDICAL OFFICERS' RESERVE CORPS.

Alexander, D. L., Twin Falls.
Arntzen, J. L., Paris.
Aspray, Joseph, Moscow.
Barrows, F. L., Moscow
Bartlett, J. C., Bruneau.
Bland, Curtis, Preston.
Brothers, W. W., Malad City.
Byrd, A. A., Bellevue.
Callard, C. B., Placerville.
Carithers, W. H., Moscow.
Castle, L. F., Pocatello.
Clark, B. O., Emmett.
Cole, F. L., Rigby.
Cole, F. M., Caldwell.
Conant, C. C., Weiser.
Coughlin, J. F., Twin Falls.
Cromwell, J. H., Gooding.
Crouch, J. E., Payette.
Didier, F. W., Harrison.
Eames, Earl, Minan.
Dimon, John, Elk River
Falk, Ralph, Boise.
Fawcett, S. F., Bonners Ferry.
Fitz, G. G., Richfield.
Hamilton, W. R., Weiser.
Harris, F. T.
Henning, O. F., Jerome.
Higgs, D. P., Fairfield.
Hopper, Simon, Cambridge.
Howard, W. F., Pocatello.
Hull, A. R., Nampa.
Ingram, J. W., Priest River.
Kacklen, Soda Springs.
Kerns, J. M., Malad City.
Kleinman, E. W., Hailey
Kneeshaw, R. S., St. Maries.
Laubaugh, E. E., Boise.
Laughbaum, Ray, Juliaetta.
Leigh, C. A., Twin Falls
Logan, V. G., Rockland.
Louis, J. D., St. Anthony
Macrae, R. D., St. Mary's.
Mason, R. E., Mackay.
Maxey, E. E., Boise.
McCall, J. M., Troy.
McDill, W. F., McCammon.
McMahan, W. F., Kamiah.
Miller, J. F., Inkom.
Mitchell, F. W., Blackfoot.
Moore, C. C., Paris.
Mowery, C. R., Wallace.
Newton, A. M., Pocatello.
Mowery, Herbert, Wallace.
Numbers, D. S., Parma.
Page, O. E., Sandpoint.
Patrie, W. E., Blackfoot.
Perkins, L. J., Lewiston
Piper, E. D., Jerome.
Pittenger, F. A., Boise.
Platt, O. D., St. Mary's.
Poole, F. H., Pocatello.
Potter, W. H., Kootenai.
Poynter, D'Orr, Montpelier.
Quick, R. W., Weston.
Quigley, F. L., Wallace.
Railston, B. O., Rathdrum.
Randall, G. B., Buhl.
Richards, F. P., Pocatello.
Rogers, E. B., Winchester.
Schwarz, T. E., Twin Falls.
Shurtz, L. E., Boise.
Smith, C. T., Pocatello.
Sprague, C. H., Pocatello.
Sprague, F. M., Pocatello.
Tallman, M. H., Boise.
Titus, W. S., Boise.
Tukey, W. H., Boise.
Watson, C. E., Nampa.
White, E. L., Lewiston.
White, J. E., Twin Falls.
Whiteman, R. T. Council.
Wiik, J. C., Moscow.
Williams, C. W., LaClede.
Wright, Crispen, Fruitland.
Young, J. R., Pocatello.

U. S. NAVY.

Cluen, R. J., Boise.

UTAH.

Adams, H. G., Ogden.
Alexander, R. J., Salt Lake City.
Allen, D. K., Salt Lake City.
Ashley, R. W., Salt Lake City.
Baldwin, S. C., Salt Lake City.
Bartlett, F. K., Ogden.
Beal, D. O., Ephraim.
Beer, Sr., W. F., Salt Lake City.
Benedict, C. M., Salt Lake City.
Bird, A. A., Magna.
Black, B. W., Salt Lake City.
Brain, C. E., Salt Lake City.
Brown, W. R., Ogden.
Browning, W. J., Roosevelt.
Chamberlain, E. F., Price.
Christopherson, Willard Salt Lake City.
Clark, F. G., Ogden.
Clarke, G. W., Springville.
Cloward, R. E., Price.
Cook, J. O., Sunnyside.
Critchlow, M. M., Salt Lake City.
Crismon, K. A., Salt Lake City.
Cruikshank, G. H., Vernal.
Dannenberg, B. A., Hober.
Davis, G. Von Pultinger, Salt Lake City.
Davis, G. F., Ogden.
Day, J. E., Garland.
Dumke, E. R., Ogden.
Dunn, Frederick, Springville.
Emery, G. C., Holliday.
Evans, J. O., Salt Lake City.
Ewing, W. B., Salt Lake City.
Field, G. J., Salt Lake City.
Fisher, R. W., Salt Lake City.
Flood, T. A., Salt Lake City.
Galligan, J. J., Salt Lake City.
Gardner, C. S., Kaysville.
Goeltz, F. A., Salt Lake City.
Graham, J. M., Fruita.
Green, G. W., Vernal.
Hampton, R. R., Salt Lake City.
Hanks, G. W., Lehi.
Heath, C. J., Marysvale.
Henneberger, C. E., Bingham Canyon.

Humphrey, I. K., Salt Lake City.
Jansen, F. I., Salt Lake City.
Jellison, R. T., Salt Lake City.
Kanzler, Reinhold, Ogden.
Knott, A. D., Murray.
Marshall, H. L., Salt Lake City.
Mayo, H. N., Salt Lake City.
Mayo, W. B., Salt Lake City.
McBride, G. E., Magna.
McCune, R. A., Ogden.
Merrill, R. T., Smithfield.
Nyvall, C. A., Salt Lake City.
Pace, G. H., Murray.
Peck, J. H., Ibapah.
Potter, L. C., Provo.
Preston, W. B., Salt Lake City.
Pugmire, L. R., Ogden.
Pugh, W. N., Salt Lake City.
Rich, L. F., Ogden.
Rich, H. E., Vernal.
Richards, H. Y., Salt Lake City.
Roberts, G. F., Salt Lake City.
Rush, W. A., Logan.
Sandberg, C. L., Salt Lake City.
Scott, H. S., Salt Lake City.
Sharp, J. F., Salt Lake City.
Spangler, H. B., Murray.
Sprague, H. B., Salt Lake City.
Stevenson, T. W., Salt Lake City.
Stewart, L. D., Payson.
Stigall, C. G., Salt Lake City.
Taylor, F. W., Provo.
Tyree, F. C., Salt Lake City.
Van Scoyoe, Guy, Salt Lake City.
Wardleigh, C. E., Ogden
Whalen, W. E., Ogden.
Wickert, H. T., Huntsville.
Woolsey, R. T., Salt Lake City.

BOOK REVIEWS

Local and Regional Anesthesia, including Analgesia. By Carroll W. Allen, M. D., of Tulane University, New Orleans, with an introduction by Rudolph Matas, M. D., of Tulane University, New Orleans. Second Edition, Reset. Octavo of 674 pages with 260 illustrations. Cloth, $6.50, net. W. B. Saunders Company, Philadelphia and London, 1918.

This present second edition includes the description of many additional operations which are now commonly performed by surgeons skilled in the use of local anesthesia. The first of these is prostatectomy, where, beginning with the two stage operation and the adoption of anoci-association principles to control shock with the use of adrenalin to subdue hemorrhage, general anesthetics have been completely eliminated. An exception, of course, is where there is undoubted malignancy. Valuable points in technic of the operations, like others thruout the book, are mentioned in connection with the anesthesias. Sacral anesthesia and additions to the methods used in abdominal surgery are also among the advances. Spinal anesthesia is more fully dealt with, a method, by the way, which is receiving more and more recognition as its technic and indications are more fully mastered. The first volume is familiar to us all, having been issued three years ago. Like it the present one contains complete descriptions of the many drugs used for the production of local anesthesia; full details of technic employed in the different operations, and chapters on other methods where a combination is indicated. It is exhaustive in its treatment of the subject, and has a literary merit which makes for pleasant reading. We cannot commend it too highly. FORBES.

Modern Operative Bone Surgery with Special Reference to the Treatment of Fractures. By Charles George Geiger, M. D. 286 pp. 120 Illustrations. F. A. Davis Company, Philadelphia and London, 1918.

The first two chapters are devoted to an excellent consideration of the histology of bone formation and chapter three to the functions of the periosteum. The author emphasizes the value of the periosteum to the bone graft as it carries osteoblasts, the important part of the bone graft, and should not be removed from the bone. Other chapters take up the repair of the bone, the time to operate on fresh fractures, the autogenous bone graft and many chapters on surgical technic, which includes exceptionally good chapters on the use of the inlay graft and the intramedullary dowel. It may truly be said that the modern surgeon is known by his tools and that axiom applies most emphatically to expert bone work. Several chapters are devoted to the description of bone instruments, among them the author's own electric motor for the operation of saws, drills, etc. The book is dedicated to the memory of the late John B. Murphy and many excerpts and illustrations from the works of this illustrious surgeon are used. It is well illustrated and is a most excellent treatise on this interesting and important branch of surgery which had advanced so far in late years.

QUILLIAM.

The Treatment of War Wounds. By W. W. Keen, M. D., L.L.D., Emeritus Professor of Surgery, Jefferson Medical College, Philadelphia. Second Edition, Reset. 12mo 276 pages, illustrated. Cloth, $2.00, net. W. B. Saunders Company, Philadelphia and London, 1918.

This small volume is based on a report to the national research council and is the second edition within a year. It deals exclusively with treatment of war wounds, giving full descriptions of the many methods now regularly employed. The relative value of numerous antiseptics; the exact technic of their employment; the use of the x-ray in localization, fractures, shock and means of transportation provide the most important chapters. Treatment of wounds is also regionally described. The value of the work is much enhanced by the inclusion of many personal letters from the surgeons, whose work in France has made the volume possible. It is difficult to suggest a better book for those in the service who want the advances in military surgery presented to them in a complete yet compact form. FORBES.

The Elements of the Science of Nutrition. By Graham Lusk, Ph.D., Sc.D., F. R. S., (Edin.), Professor of Physiology at Cornell Medical School, New York. Third Edition, Reset. Octavo of 641 pages, illustrated. Cloth, $4.50, net.

W. B. Saunders Company, Philadelphia and London, 1917.

This book includes an exhaustive index, is a scientific exposition of the subject, of particular interest to the internist and to the teacher of physiology. It deals with facts of metabolism, more particularly with its physiology, showing the influence of various foods, the normal diet, the nutritive value of various materials, the metabolism in certain diseases, as in anemia, myxedema and exophthalmic goiter, diabetes and phosporus poisoning, nephritis, cardiac disease, acidosis, fever, etc. A chapter is given to the influence of certain drugs and another to the economy of food. The work is one which cannot be abstracted; indeed it is one which can only be studied. The myriads of facts, the results of all the years of scientific experimentation by thousands of observers are such that no one brain can hold them offhand. They must be kept in a book where one can go to them and select from this store house that which is needed for the occasion. The book is well printed and bound. WURDEMANN.

A Diabetic Manual for the Mutual Use of the Doctor and Patient. By Elliott P. Joslin, M. D., Assistant Professor of Medicine, Harvard Medical School, etc. Illustrated. 187 pp. Price $1.75. Lea & Febiger, Philadelphia and New York, 1918.

This book is intended for a double purpose, to direct the physician in many useful methods of treating the diabetic and also for the patient in order that he may cooperate with the treatment of his physician. While it contains much that the patient is not likely to digest, he will obtain much useful information from its pages. Beside the general methods of treatment, the chapter on diet is full of suggestions which will be appreciated by the reader. Chapters on the care of the teeth and the skin contain useful facts. The chapter on drugs for this disease occupies less than half a page. The author says, "I wish I knew of a good drug for diabetic patients. It would save me so much time and talk." This work is to be commended. SMITH.

1917 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 866 pages, 331 illustrations. Cloth, $6.50, net. W. B. Saunders Company, Philadelphia and London.

This publication widens its scope and grows in value each year. It is the source of much modern knowledge in many fields and its scientific contributions are of interest to the whole profession. The papers of the present volume are arranged under the following heads: Alimentary canal, urogenital organs, ductless glands, heart, blood, skin and venereal diseases, head, trunk and extremities, technic, general. There are 50 contributors, among whom are the Mayos, Judd, Balfour, Rosenow, Braasch and MacCarty, who provide the usual number of papers. There are notable articles on x-ray diagnosis in upper abdominal diseases, tumors of the bladder, studies in transplantation of whole

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organs, diseases of the spleen, pulmonary embolus, technic and treatment of syphilis, and the place of cancer in general biology. It is an excellent volume. FORBES.

The Ungeared Mind. By Robert Howland Chase, A. M., M. D., Physician-in-chief Friends Hospital for Mental Diseases, etc. 351 pp. Illustrated. Price, $2.75. F. A. Davis Company, Philadelphia and London, 1918.

This is a very readable book but is not a complete essay. It is rather a collection of paragraphs, of aphorisms and short essays dealing with various phases of the ungeared mind from the notebook of an alienist. Indeed, one may commence to read the book on any page, in the middle or at both ends, as the subjects therein given are disassociated. The book is written in the popular style and is very interesting reading. The physician may gain from it many facts and suggestions as to the psychical care, of not only the insane of the asylums, but of that large mass of people who are on the border land and with whom he more or less daily comes into contact. WURDEMANN.

The Essentials of Materia Medica and Therapeutics for Nurses. By John Foot, M. D., Assistant Professor of Therapeutics and Materia Medica, Georgetown University School of Medicine, etc. Third Edition Revised, Enlarged, Reset. 310 pp. Price. $1.75. J. B. Lippincott Co., Philadelphia and London, 1918.

This is an excellent work for the instruction of nurses in the essentials and principles of materia medica. It does not attempt to cover the whole field of drugs but describes those in most common use which are likely to come to the attention of a nurse. There are chapters on the administration of medicines, how medicines act, the preparation of antiseptic and other solutions. There is a useful chapter containing a list of commonly used drugs, chemicals and proprietary medicines. There is a final chapter on formulae which will prove of value to the nurse. It is a valuable book for the nursing profession. SMITH.

Modern Industrial Medicine.—C. G. Farnum, Peoria, Ill., (Journal, A. M. A., Aug. 3, 1918), says that industrial medicine at the present time has advanced greatly from what it was a few years ago, and the term modern industrial medicine does not mean what passed under this name even a year or two ago. Our ideals of yesterday are obsolete today, and we have vision and faith to believe that our dreams of today will be realized tomorrow. There is one particular phase of the subject that the author wishes to emphasize. In a well organized department of medical supervision in a modern industrial plant where every applicant is given a complete and painstaking physical examination before he begins work, the labor he is asked to perform is largely influenced by the physical findings. The number of physically perfect specimens is not great in normal times, and they are becoming fewer each month with the withdrawal from industry of men for military service. How important it becomes, then, for each worker to be placed at work compatible with his physical condition so as to utilize to the utmost the talent he possesses! We are facing a twofold problem of the need for greatly increased production with a greatly decreased number of producers. Conservation is the slogan of the times, and we should work for the conservation of the workers. Farnum says he has walked through industrial plants in an hour and has seen a hundred jobs filled by apparently able-bodied men, which could have been done equally well by a cripple. At the same time the employment department of that plant was rejecting the very cripples who could have done the work as well. In the plant where he himself works, the superintendent of safety has but one leg and is more valuable on that account. Recently eight men came to his office at one time for examination. One was minus an arm, two were each minus one leg, and one was minus both feet. These men are now doing the work they were given to do as efficiently and are receiving the same wage for it as though they were physically perfect. The statistics accessible to some of us bring out two striking facts; first, that the labor turnover varies inversely as the physical defects of the worker, and second, that the worse the physical defect, the less the accident incidence. Applying these facts to the present situation of the problem of the crippled soldier, the author says his reestablishment in the industrial world lies in the hands of the industrial medical men, and the industries they represent. Their plan has been developed and in some of the plants has proved its worth in active use.

Infection Psychoses.—After a rather lengthy introduction on the general problems involved, neurobiologic, etc., F. P. Norbury, Springfield, Ill., and A. H. Dollear, Jacksonville, Ill. (Journal A. M. A., July 27, 1918), take up the subject of toxic psychoses and their treatment. More cases of this type of mental derangement are seen in private practice and in private hospital work than in the large state institutions. Hence the importance of the subject to the general practitioner. The private institution has the advantages of probably giving more individualized care than can be afforded in the larger public institution, and escapes the disadvantages of legal commitment which are dreaded, in many cases, by both patient and friends. It is necessary to study up the normal conditions of the patient and compare them with this condition, and to study also the personality and defense reactions of which he is capable. There is no one etiologic factor in the starting of this form of derangement, hence the careful study of each case and its special cause. The clinical symptoms, physical and mental, they say: ". . . are briefly the general appearance of illness, the skin as a rule is dry; nails are brittle; the face, drawn; pupils, dilated; tongue, coated; general nutrition shows loss of weight; the pulse varies according to the degree of emotional excitation; the temperature is usually subnormal; the laboratory findings show mild degree of secondary anemia; the urine, of high degree of specific gravity, and may show the existence of nephritis or diabetes as a complication. The blood pressure likewise is variable, depending on complicating factors; usually in depressive cases, the pressure is higher than the average; in cases with excitement, the pressure is apt to be low. Diastolic pressure is the most significant, both in the progress of the case and in prognosis." This is emphasized by the recent studies on shell shock in the present war, and the knowledge of the cause of the fall of the arterial diastolic pressure is essential.

NORTHWEST MEDICINE

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ADDRESSES

SOME SUGGESTIONS LOOKING TO THE IMPROVEMENT OF THE PUBLIC HEALTH BY THE GENERAL PRACTITIONER.*

By WM. F. SMITH, M. D.
BOISE, IDA.

I desire to take this opportunity to express to you my high appreciation of the honor conferred upon me, in my selection to preside over this body of distinguished physicians and scientists. I assure you I look upon this as an honor of no mean distinction. At the outset I am sure you will agree with me, as members of the medical profession, that the key note of our convention this year should be "winning the war" and, until a peace has been declared acceptable to our great President, Woodrow Wilson, every other business, every other object and every other calling should be given secondary consideration.

I wish today to call your attention to the necessity of performing our patriotic duty wherever opportunity offers, whether this be in the capacity of volunteering our services as physicians in the Medical Reserve Corps and going to the front, or in rendering efficient work and helping maintain the health of the workers who are performing manual labor and this is as necessary to the successful finish of the war as is the service of the fighting man at the front. In other words, the condition of the health of the workers should be kept up to the very highest standard. The men who are building the ships for transporting troops to Europe and carrying on the maritime commerce of the nations are doing just as important work as are the actual fighters; hence the physicians who keep the shipbuilders in the best of health and, therefore, able to perform their strenuous duties, are engaged in efficient work for the war and the same thing applies to the men employed in the ammunition factories, on the farms or in some other capacity.

But I must now, as the good minister might say, speak to my text, which is some suggestions looking to the improvement of the public health by the general practitioner. My message to you today is this, that the physicians, who are practising medicine in their individual communities and who pay close attention to all of those little things that tend to protect and maintain the health of their people, are of far greater service to humanity than those among us who chase a rainbow in the way of spending time in the investigation or study of a disease of rare occurrence, the prevention or control of which may relatively speaking be negligible.

Again, the physician who educates the people of his community as to the cause of infection and the prevention of same, as to illustrate, from tuberculosis or typhoid, two of our most common diseases, is rendering a most valuable aid in relation to the preservation of the public health, by the dissemination among the people of knowledge calculated to protect the healthy from the invasion of these two arch enemies to mankind, rather than unwisely devoting his time and energies to the following up of some high-spun theory in connection with some new disease, with which perchance he will never come in direct contact. It is, therefore, my purpose to stress the importance of these practical, every-day things that are still of inestimable value to both the profession and the public.

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*President's Address, read before the Fourth Tri-State Meeting of Associations of Oregon, Washington and Idaho, Seattle, Wash., July 17-19, 1918.

The United States joined her forces a little over a year ago with the greatest nations of Europe in a united effort, hoping to establish a world's democracy. I believe that she entered the struggle at what was conceded to be the psychologic moment, for without our support and assistance at this crucial time the probable, nay almost certain result of this titanic struggle, would have been different from what we feel convinced it is destined to be; and since war has been declared, we have all become well acquainted with the horrors of the present deadly conflict, the terrible results following upon the use of gas, the slaughter of innocent women and children by bombs hurled from wicked air craft flying over defenceless cities in the stillness of the night, the awful havoc wrought on those in their path by the immense guns used in modern warfare and the various other forms of brutal carnage that we see evidenced both on and near the battlefields. We have had these horrible realities most vividly impressed upon us during the past year especially, since our own American boys have been going so rapidly to join the fighting forces, and we will have them much more strongly impressed upon us no doubt, if the war long continues and the American sector becomes actively engaged in battle, as will be evidenced by the casualty lists published from day to day.

And yet we have had in existence and in constant operation for years, all over this fair land, an invisible war, a fearful war, one where the enemy stays well concealed and oftentimes cannot be seen by the untrained eye, but is regularly within our midst, scattering death blows and destruction all around. He has all too often been able to strike at vital parts, unnoticed, until almost irreparable damage has been done and terrible inroads made. This enemy not only attacks in the open but charges from the rear, fighting from ambush and in the dark hours of the night, never recognizing any flag of truce. It but redoubles its unfair efforts and makes its double quick dash, when a victim seems down and out, and never offers quarter, waging eternal warfare at all times and in all seasons, reaching both rich and poor, black and white, high and lowly, for it is no respecter of persons, education, wealth, color or previous condition of servitude. I refer to disease, in its many and varied forms.

Only a few years ago you will recall that it made itself manifest every year or so, all along our great Atlantic seacoast in the form of yellow fever, putting an absolute stop to commerce and costing the lives of thousands of our citizens. We all remember the fearful loss of life that the young volunteer soldiers in the Spanish-American war suffered from typhoid fever; the comparatively recent epidemic of cerebrospinal meningitis in the South a few years ago, and year before last, a terrible toll in life being paid by those succumbing to it, when an epidemic scourge of infantile paralysis swept the country, leaving a large percentage of its unfortunate victims who escaped death, either crippled or deformed for life. You recall also vividly, I am sure, the heavy death rate brought about by pneumonia in our military camps during just the past winter. I mention but a few of the more common diseases that have been prevalent in this country within the memories of us here, for the purpose of making us consider, as members of the medical profession in whose care rests the physical welfare of our people, the necessity for devoting our main efforts and much of our time to a united and well-directed effort looking to the prevention or care of those commoner maladies with which we all come more or less in contact when doing general practice. We must recognize our responsibility and be prepared for the conflict.

Dr. John S. Billings once aptly said that "every physician in active practice is familiar with the astonished, incredulous and slightly offended aspect of the man who comes to him for a prescription for a little dyspepsia or hoarseness or dizziness or numbness and is told that 'this is the beginning of the end' and that henceforth he cannot follow his favorite habits and pursuits, if he wishes to preserve his life. And this is true to a certain extent of communities as well as individuals. It is hard to persuade a city that it is ill or is in danger of becoming ill, so long as the trade pulse beats strongly and clearly, and still harder to induce it to submit to any treatment which may slacken this pulse, even temporarily."

This, in a measure, explains the people's apathy to public health matters in general. They rush thru life, thinking only of business and well nigh forgetting or at least not contributing their individual part toward a public demand for suitable laws looking to the protection both of their own lives and those of their families and neighbors, but it becomes the bounden duty of the competent physician, who has been trained as to the causes and means of prevention of disease, to warn the people of their respective communities individually how to protect their lives, as well as to take an active part, especially in an advisory way, where no public provision is made for a full-time, well paid, competent health office, to look well to the health interests of said section.

But the greatest good to be accomplished for the ultimate successful results in the prevention of disease is the individual work performed by the experienced physician in his daily professional career, as he mingles with his fellow men, and uses his knowledge and judgment in an educational manner for the benefit of the public health. See what can be accomplished by the members of the profession, not only in a careful inspection and supervision of their tuberculous subjects, as to the means necessary to be followed for the protection of the health of those with whom they may be forced to associate or live, not being in position to avail themselves of sanitarium treatment, but also by wisely warning the apparently well as to what they must needs do, if they would guard themselves against the dangers following upon forced close association with the tuberculous.

Think for a moment what the physician can do when he discovers a case of typhoid, in tracing or locating where possible the source of the infection and notifying the proper health officials, so that active steps may at once be taken to wipe this out, whether the cause be an impure water supply, milk supply, carrier or other cause. Also as regards the vaccination of all exposed to such infections.

Or consider the question of the venereal diseases. Not only should the public be warned of their prevalence, the eventual havoc they work and give instruction as regards their prevention, but of even more importance is the care and instruction necessary to be given the individual patient. The present condition of things in this respect will happily to a great extent, we hope, be remedied by legal enactments in the near future.

Note also the importance of investigating and tracing the healthy carrier in an effort to prevent further spread of cerebrospinal meningitis, typhoid fever and other conditions, where such healthy persons may communicate the disease from themselves to another. The prevalence of typhus fever in old Mexico and the established fact of its possible absolute control and prevention by the delousing process now so well understood and practised by the Government officials is a subject of unquestionable interest to the profession of that section of our country.

Previously, as we know, tuberculosis claimed the largest percentage of deaths of any known disease but within recent years pneumonia, and particularly lobar pneumonia, holds first honors, so that it is highly important that physicians generally should acquaint themselves with the latest approved methods of diagnosis, and distinguish at first sight the four prevailing types of this disease, as understood etiologically. It is now well established that the serum treatment used in cases of type number one offers splendid chances for recovery and cure. This, then, is a subject that should engage the serious thought of every medical practitioner, whether he is called upon to treat isolated cases of pneumonia or it falls to his lot to handle the disease in its epidemic form.

Whooping cough has caused the deaths of from nine to ten thousand children annually and there is no good reason why there should be such a serious loss of life where this trouble is recognized promptly, quarantine is ordered and prophylactic measures are instituted in the form of the use of pertussis vaccine. We likewise know the value and importance of the early discovery of diphtheria, particularly in the schools, where its spreading occurs so rapidly once this disease has been permitted to obtain foothold therein, so that isolation may be resorted to and prophylactic measures employed.

Smallpox of recent years is a disease that has been looked upon as of rather slight consequence, but with a continuation of the present prevailing disregard on the part of the public, in connection with enforced vaccination and the lack of positive advice from physicians to their patients in an advisory capacity bearing upon its very real value, there will develop within a comparatively short time a race of people no longer immune to smallpox due to past vaccination, when the disease will again assume the appearance of a deadly menace, and in its severe form it is as heretofore likely to threaten a scourge that will leave its ugly marks behind it, because so many still among us fail to admit the value of vaccination.

It is needless for me to take more of your time by attempting to outline in detail the terrible ravages wrought by syphilis in its various forms and stages, where its treatment is improperly or incompetently undertaken by unprincipled charlatans, in which case patients are frequently left under the wrong impression that they are fully recovered. In this manner cases are allowed to run on perhaps for years, until a fatal blow is struck, perhaps in the form of some kind of paralysis, locomotor ataxia, or else one of the many organs of the body may suffer the penalty. The pity of it is that with this disease not alone is the patient the sufferer, but oftentimes innocent parties are joint sufferers. Any member of the medical profession who has had any experience whatsoever along surgical lines, knows of the fearful cost often paid by the innocent, especially the women of the land, as witnessed in various kinds of operations, made necessary by some past gonorrheal infection, usually imparted with no intention to harm, yet exacting its pound of flesh.

We are also familiar with the recent advances made in the study of focal infections and the hitherto obscure cases that are now readily understood and cured as a direct result of this progress made in medical knowledge.

A great campaign was launched two years ago all over the country, when almost every medical journal published in the United States devoted one month's entire issue exclusively to a discussion of medical thought bearing upon the subject of cancer. Statistics were prepared and given out to show the fearfully rapid increase of the disease thruout the whole civilized world, as so very admirably shown by Mr. Frederick L. Hoffman, in that masterpiece of statistical work which he compiled as actuary for the Prudential Life Insurance Company of America, entitled "Cancer Statistics of the World." It is today known and understood that cancer is not a hereditary disease, but follows in the wake of long continued irritation. The proper solution to the question, of course, lies in the form of prevention by removing all points of irritation as nearly as possible. The only positive cure lies in removal of the growth if proven malignant or, better, in an early recognition by the physician of the precancerous stage of the disease and his advice for an early operation, when the presence of cancer has been corroborated.

I might enumerate at some length instance after instance where the general practitioner has an opportunity to perform a great service to those in his section, placing themselves under his professional supervision and care, but I feel I need but mention these few cases to impress upon all of you the importance of our noble calling and mission in life. I especially desire to stress the fact that the physician or surgeon who devotes his time and puts forth his every effort in meeting the everyday problems likely to arise and confront him in his practice is performing a work of untold benefit to mankind. Already we can see the benefits likely to accrue from the prohibition of the sale of spirituous liquors in large sections of the country, brought about as a result of the war; and I predict that nation-wide prohibition will follow shortly if the struggle for liberty lasts much longer. Today the faculties of our medical colleges are both advocating and instituting public health teaching and some very admirable courses are being arranged so that physicians and health officials particularly may have a chance to be trained scientifically in order to know how to tender the most efficient service in the performance of their civic or state duties.

One of the things, to my mind, that is doing more good than any other, looking to the betterment of the public at large thru the agency of the physicians, is the vast amount of public health and sanitation material being published in the leading medical journals of the land. Many of them are conducting departments in the interest of this important branch of medicine. We are all of us no doubt familiar with the splendid work being accomplished by the *American Journal of Public Health*, which prints the valuable proceedings of their society at their annual convention, and I cannot refrain from passing favorable comment also upon a journal that has been published for the last two years and one I have read regularly with increasing interest because it devotes its pages exclusively to a discussion of public health matters and topics of interest to physicians engaged to any extent in life insurance work, which is also public health work. I refer to *Medical Insurance and Health Conservation,* published in Dallas, Tex. This journal is being edited by some of the leading medical men in the United States and is worthy of the careful attention of any one interested in this up-to-date line of thought and is offered the profession at the modest price of two dollars per year.

In conclusion I want to liken the value and worth of the general practitioner who has, more than any of the rest of us, the real good of the community at heart, to the wonderful gulf stream, as so beautifully expressed by Professor Maury, the noted geographer, when he said,

"There is a river in the ocean. In the severest droughts it never fails, and in the mightiest floods it never overflows. The Gulf of Mexico is its fountain and its mouth is the Arctic seas. It is the *gulf stream.* There is in the world no other such majestic flow of waters. Its current is more rapid than the Mississippi or the Amazon, and its volume more than a thousand times greater. Its waters, as far out from the Gulf as the Carolina coasts, are of an indigo blue; they are so distinctly marked, their line of junction with the common sea water, that they may be traced by the eye. Often one-half of a vessel may be seen floating in the gulf stream water, while the other half is in the common water of the sea, so sharp is the line and such the want of affinity between these waters, and such too, the reluctance, so to speak, on the part of those of the gulf stream to mingle with the common water of the sea."

The general practitioner today is like this mighty stream, in that he moves on along the even tenor of his way, undisturbed by the outside currents of opinion and as the gulf stream tempers the climate of the North Sea and makes Iceland and Greenland habitable, because it bears upon its broad bosom the heat of the temperate zone, so does he make the world a healthier and thereby happier place of abode and is worthy of the nation's highest praise, because he carries its health and happiness in the hollow of his hand.

Syphilitic Reinfection. Joseph Spangenthal, Buffalo (Journal A. M. A., Aug. 31, 1918), reports a case of syphilitic reinfection. The first appearance of the primary lesion occurred in September, 1913. The patient was a married man and had infected his wife. Both patients were treated by neosalvarsan and other specific treatment and recovered from this attack. At intervals of six months the patients reported for a Wassermann test which was always negative. In March, 1918, he developed another primary sore followed by secondary symptoms and two Wassermann tests were +++. This case seems to support the theory of the curability of syphilis, if it is admitted that it cannot recur in a cured case without having undergone complete recovery.

WASHINGTON STATE MEDICAL ASSOCIATION.*

By George M. Horton, M. D.

SEATTLE, WASH.

At this time I wish to give voice to my appreciation of the honor conferred upon me one year ago by this Association, the highest and most prized by the medical profession of this state. The Washington State Medical Association includes in its membership the very best men in the state of Washington, and to have been its standard bearer for one year will ever remain a pleasant and cherished memory.

In taking over the duties of this office I will admit there was considerable misgiving on my part. The responsibilities loomed high, but were quickly dispelled by our worthy Secretary, Dr. C. H. Thomson, who by his guidance and advice has kept the ship on her right course, always ready and willing, going out of his way to make things easy. I wish to express my deep appreciation for all he has done in the past year, and trust he may continue in office for a long future period.

This is the second time we have had the Tri-State meeting in Seattle, the last being at the time of the Alaska-Yukon Exposition, at which time we had more to show the visitors than at this time, which I think rather detracted from the proceedings of the meeting. We are more than pleased to have the privilege of again entertaining the associations and, as both the other states have given up their meetings and turned over the men they had secured to furnish papers, we are assured a very fine program, for which the Washington Association is duly grateful.

I will occupy a few moments of your time in setting forth a few facts that I think will be of interest concerning the Washington State Medical Association.

Financial. The regular official audit of Jan. 1, 1918, gave a balance of $3,700.45, in cash and securities, and that of July 1, a balance of $3,711.90, the Seattle National Bank being the depository. The present balance is about $200.00 below that of the preceding year, but under present conditions we must expect continued reduction in our balances. However, the association is in excellent condition, and will continue so with reasonable support. Of course, we do not know how large a percentage of our membership will be called into service. Now the most important point is that we have promptly met all of our obligations, and have a reasonable balance.

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*President's Address, read before the Fourth Tri-State Meeting of Associations of Oregon, Washington and Idaho, Seattle, Wash., July 17-19, 1918.

Medical Population and Membership. Total number of physicians in Washington July 1, 1564. This includes all claiming this state as a place of residence, but does not include officers of the regular Army and Navy.

Physicians in the Medical Reserve Corps of our Army and Navy, with the Red Cross and in the forces of our Allies, 356. On account of not being able to get direct reports this estimate is about 5 per cent. to 10 per cent. less than the actual number and is generally about three weeks behind the times. This estimate does not include three deaths, five resignations and twelve discharges on account of physical disabilities.

Total number of members in the State Association, 865; total for complete year 1917, 820.

Altho less than 10 per cent. of the physicians of this state have never belonged to the association, our official membership is as above stated, for the reason that the by-laws and the A. M. A. provide that members must be in good standing or they are not members. Officially we have no delinquent members but practically we do not strictly enforce the regulations, as we find that many of these delinquents return to the fold and at least pay the current dues. Much of this is due to negligence, both on the part of the member and his county society.

Of the 39 counties in the state, 15 have active and fairly efficient county medical societies, 6 have societies in name only, and the remaining 18 have no local organizations. In some of the smaller counties it is practically impossible to maintain a county society, and in some of them the local physicians hold membership in nearby counties. It must be said that in point of membership we make a miserable showing, and we are in urgent need of an organizer. The A. M. A. promised us one but unfortunately he died on the way out and we have been unable to obtain another.

At the present time we are carrying some 233 members without payment of annual dues. Some of these are fellows who have retired from active practice but most of them on account of their service in the Medical Reserve Corps. We think it only just for the Association to remit the dues of those members in active war service.

War Service.—We have promptly served our government in all ways that have been indicated to us. Our officers have freely given their services to the various advisory, examination and exemption boards. We have made and submitted to the government officials a complete medical census of this state and a great quantity of statistical information. We have invited the Government to freely use our organization. We have sent many men to the colors (only about 5 per cent. being non-members) and in this respect we at one time ranked fourth, but now I understand are about eighth on the list of states. Undoubtedly we will send many more into service. Individually we have financially supported our Government to the extent of our ability, and as an organization have purchased $500.00 of the last Liberty Loan.

Dr. W. Ray Jones has done some extensive work along the lines of venereal prophylaxis, working hand in hand with Dr. McBride, City Health Officer, and will be heard from during the discussion that will take place upon this subject. Our War Relief Committee will doubtless report on their efforts to aid members called into service, as well as the committees on co-ordinating war work and standardization of hospitals.

Medical Legislation. We have supported the various health measures introduced in the Federal Congress, particularly the Owens and Dyer Bills giving increased rank for the medical corps. In this state there has been no change in legislative matters since the last session of the legislature. At the next session the various cults will doubtless seek increased recognition and, as few regular medical men will be able to devote any considerable time to political matters, they may succeed. However, our unselfish efforts and service should count heavily against them.

Legal Defense. To date we have handled 147 cases and have at the present time 12 cases pending. For the purpose of comparison there were some 140 cases in Pennsylvania in eleven years, handled by the State Medical Association. This association has handled more than that number in five years. Of course it is not to our credit that we have so many cases, but we can congratulate ourselves upon the fact that so far no member defended by us has suffered any material financial loss. Winning 100 per cent. of cases has been equaled by other state medical associations, but no commercial insurance company can come anywhere near this record.

During the last fiscal year 393 members subscribed for our Defense Fund, about 45 per cent. of our active membership. This year we will not do as well, as many of our subscribers have entered the Medical Reserve Corps, and it will be difficult to obtain many new members without a personal canvass.

We deserve better support than we have been given. We have given complete defense in each case; we have diminished the number of cases and the cost of insurance, and many companies admit that without our organized assistance insurance could only be offered, if at all, at prohibitive rates. Should the association discontinue its defense department, some of our members who have not supported it would be disagreeably surprised. However, we have sufficient funds on hand to cover outstanding policies, and with liberal support may even hope to reduce the amount of our premium.

An urgent appeal has just been issued by the Surgeon General of the United States Army for doctors for the Medical Reserve Corps. This means, if an army of 3,000,000 men is raised, 10 per cent. of this number will be in the medical department. That is, 300,000 officers and men, and of these at least 25,000 must be qualified physicians and surgeons. If an army of 5,000,000 men be raised, the medical department will contain 500,000 officers and men, which will mean between 35,000 and 40,000 qualified medical men. At the present time there are more than 200,000 men authorized in the Medical Department of the Army. Of this number, somewhere from 20,000 to 25,000 will be medical officers, and the balance enlisted men and nurses.

If the Navy is increased 500,000, it means we shall need 3,500 medical men. And if it be increased to a million, as we hope it will, 7,000 medical men will be needed. It looks as tho all the medical men qualified for service, between the age of 21 and 55 years, will have to come forward and apply for commissions in the Medical Reserve Corps.

The Surgeon General makes the statement, "So far the United States has been involved only in the preparatory phase of this war. We are now about to enter upon the active or fighting phase, which will make enormous demands upon the resources of the country. The conservation of these resources, especially that of man power, depends entirely upon an adequate medical service. No profession has responded more promptly to the needs of the Government than the medical man.

"Doctors more than other class make the greatest sacrifice when they enter the service, for the simple reason that his practice cannot be turned over to anyone, no matter how good and proficient he may be. But when we think of the number that have gone and the number that will yet go, it shows that no sacrifice is too great for the medical profession to make to win the war, the supreme sacrifice if it be so willed."

General Gorgas stated in his address June 10, 1918, at Chicago A. M. A. meeting: "There are many more men in the medical profession who are perfectly willing to make sacrifices, as necessity appears more urgent and closer to them." Our Allies no longer speak of service as a sacrifice but as a privilege.

The question we at home yet must ask ourselves, after one year of war is, "Are we satisfied with the service we are rendering the Government? Is the part-time service that causes little loss of time and money enough, when full service would mean sacrifice to ourselves and our dependents." This is the question and it is before us at this time, with the call for medical men as strong as it exists in both Army and Navy. It means we must strike a balance sheet, each and everyone of us with his own conscience, to decide this question. The test for true Americanism in this war is service and, as by such we are being judged, it behooves us to see that the balance falls on the right side.

Pneumonia at a Base Hospital. A. A. Small, (Chicago) Camp Pike, Little Rock, Ark. (Journal A. M. A., Aug. 31, 1918), gives an account of the pneumonia morbidity and fatality at Camp Pike, Ark., between September, 1917, and April 27, 1918. In this period there were 1,285 pneumonia patients; 857 of these had lobar pneumonia, and 428 had bronchopneumonia. In the beginning the cases were mild, and in both forms corresponded to the ordinary types seen in civil life. The mortality was low. As winter came on, however, the proportion of bronchopneumonia increased, and the mortality also increased, especially that of bronchopneumonia, which showed 53 per cent fatal in January. After that the death percentages declined, being nearly parallel at the close of the prior mentioned. It is difficult, Small says, to give a definite reason for the difference in mortality in midwinter and the later months compared with that of the first two months. The antecedent measles may have been a factor in the bronchopneumonias, and also in a number of the streptococcus cases. The author thinks that the virulence of the organism must undoubtedly be increased by its passage through the human host. Many of the cases of bronchopneumonia began with the most trivial subjective symptoms, and practically no objective signs.

ORIGINAL CONTRIBUTIONS

NEUROPSYCHIATRIC PROBLEMS ENCOUNTERED BY EXEMPTION AND ADVISORY BOARDS OF INTEREST TO GENERAL PRACTITIONERS.*

By William House, M. D.
PORTLAND, ORE.

The problem of nervous and mental diseases is regarded as the third great medical problem of the war. By excluding neuropsychopaths at the origin of armies we can do much to lessen the diabolical results of this large group of disorders which have been expressively, if somewhat generically classified as "shell-shock" or more recently "war-shock," once they have fulminated. If I need apologize for discussing this problem, I may state that *The Lancet, The Journal of Nervous and Mental Disease, The Journal of the A. M. A.* and other medical publications contain many columns about neuropsychopathies, as they appear at the front, and, more important at this moment, about the methods of prevention. The latter articles have been contributed almost exclusively by those who have not been to the front, whose knowledge, like my own, is based on neurologic practice in civil life and who have been selected out of civil life to examine recruits and reject those who, because of neuropsychopathic defects, are useless or potentially dangerous. And neurologists are being encouraged in disseminating all the information they possess about this kind of work.

In the course of a discussion before the New York Neurological Society, the following was said:

> "The prevalence of 'shell-shock' was not well known, because no statistics had been published. Dr. Ames spoke of three per cent. in Canada, but that was a very conservative figure, inasmuch as the figures given officially to Major Bailey in May showed that twelve per cent. of those invalided home to Canada suffered from neuroses and mental diseases, fifty-eight per cent. of which had a diagnosis of 'shell shock.' The War Council of Great Britain gave Major Salmon statistics of all discharges from the British Army; one-seventh of these were for mental and nervous troubles, of which the largest proportion were war neuroses.
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> "The importance of this subject did not end with a consideration of its frequency, for war neuroses had become a military as well as a medical problem. This was because they were intimately connected with the psychology of fear and the morale of the army."[1]

War-shock and shell-shock are terms used to include practically all neurologic and psychopathic consequences of exposure to gun fire and its associated strain, stress, fatigue and fear. These terms do not mean and have nothing to do with surgical shock. Practically all writers agree that shell-shock rarely occurs in those who are surgically injured. Wolfsohn, of San Francisco, reports examination of one hundred victims of shell-shock, comparing them with one hundred surgically injured persons. Among his conclusions are the following: "Cases of war neurosis are very rarely associated with external or somatic wounds" and "wounded soldiers do not suffer from war neurosis except in rare instances."[2]

War-shock appears to be chiefly a functional disorder of the nervous system. It affects many persons who have not been to the front, who have not been exposed to danger, who have not been touched by shot or shell or "the rush of air" and concussion incident to the passage and explosion of giant shells, the cause of real shell-shock, which represents only a small part of the actual number of diseases that were included under this name. War-shock occurs frequently in men not only after but long hours before battle, tho in such cases it may be called by a different name. Men picked up wandering about a battleground are assumed to have suffered from concussion, tho it is probable that many of them never experienced it.

The victims of war-shock appear to be neurasthenics, psychasthenics, hysterics, epileptics, melancholics, manicdepressives, paretics and pseudoparetics, precocious dements, and the feeble-minded, indeed, psychopaths of almost every kind with a comparatively small additional number of acquired neurasthenics. These latter result from excessive prolonged fatigue, plus exposure to gun fire, and may have actual concussion of nerve tissues which occasionally results fatally and which can be demonstrated micro- and macroscopically on the autopsy table.

Just as one who deals with traumatic neurasthenics after a time learns that the traumatic neurasthenic in many, tho not in all instances, is the neurasthenic who has been exposed to trauma usually accompanied by fright, so one recognizes in most victims of war-shock, neuropsychopaths who have been exposed to battle and under the influence of stress, fear and fatigue, have developed inherent tendencies to nervous breakdown. Individuals react to injury according to temperament, education and environment. One who has been disciplined to accept things as they come endures mutilation without a groan. Another with but slight injury raises a fuss and becomes hysterical, while a third becomes a typical neurasthenic. The same phenomena result from exposure in war. The descriptions of victims of war-shock and shell-shock are classic descriptions of typical psychopathies of every variety, with the phenomena of hysteroneurasthenia, melancholia and dementia precox predominating.

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*Read before Fourth Tri-State Meeting of Medical Associations of Oregon, Washington and Idaho, Seattle, Wash., July 17-18, 1918.

Typical descriptions of victims of shell-shock are not easy to find. In patients previously sound it appears that the disorder occurs chiefly in those who have been subjected to intense fatigue. A great difference was observed in the men and officers, the former of whom developed more of the phenomena of hysteria than the latter.

"The common soldier hoped to receive some wound, a "blighty" one, and when his neurosis appeared the symptoms assumed corresponding physical form; his sight went or the tics, paraplegias, etc. developed. The officer had higher ideals; he would not harbor the thought of being disabled; he did not want to get out of the war by any subterfuge, and so it came about that he developed a fear of death and fearful dreams of being killed began. When this occurred, his sleep was disturbed by nightmares and this aggravated his condition until it was only a question of time before he broke down. All these premonitory symptoms went on for some time and just how fast they developed to the point of incapacitation depended on circumstancnes. The soldier was waiting for some final precipitating factor which might be a purely psychic trauma or a physical accident, such as concussion."[3]

From this and other sources a typical description might be somewhat as follows: A soldier is in the vicinity of a large shell which explodes. Air concussion throws him to the ground, rendering him partly or completely unconscious. He arouses in from a few minutes to a number of hours. He is temporarily dazed, has muscular tremors, his sleep is much disturbed by frightful dreams, he is startled by the least sound, his mind is somewhat confused, his memory is impaired, he may or may not complain of aches and pains, and his reflexes are increased.

Earlier in the war autopsies were described on some patients and the opinion was that these actually suffered from organic changes that might well be described as concussion. Punctate hemorrhages were found thruout the nervous system, the brain and cord being affected. MacCurdy, already quoted, says: "Occasionally one might find traces of small retinal hemorrhages weeks after the concussion."[4]

Anybody who studies the above description will recognize in it the characteristics of traumatic neurasthenia and, in the discussion which has gone on about these cases, simply a review of the controversy that has gone on about the pathology of the traumatic neuroses. Patients subjected to shock and injury, from a few hours to a few days after it is received, develop lassitude, painful spine, increased knee jerks, fine tremors of the tongue and hands, fear of public places, dread of noise, mental confusion. Many neurologists believe that these phenomena, at least in severe cases, are the results of actual organic changes in the nervous system, probably hemorrhagic in type but microscopic in extent. Others, lacking neurologic training and some who are indeed very expert neurologists, entirely disagree with this opinion and are unable to accept the view that there have been any organic changes in the nervous systems of the injured persons.

Everyone has read of the person who after a shell explosion is found rigid and semi-cataleptic, with sluggish circulation, blank expression and obliviousness to all that goes on around him. Every State Hospital has many such patients who have been committed out of civil life. They are usually classified as cases of catatonic dementia precox. Another group are quiet, relaxed, sadfaced, without rigidity and may be called passive melancholics. In the newer nomenclature, such persons are often called constitutional psychopaths. Herewith are two histories taken from Wolfsohn's paper.

(1) *Diagnosis: Shell-shock, Constitutional Psychopath.* F. S., aged 24, active service seven months. A high-explosive shell detonated near by. He was unconscious three days, dazed, retrograde amnesia, much insomnia, and bad dreams. Excessive fatigue, depression, suicidal tendencies, physical manifestation of fear, wide eyelids, tachycardia, clammy hands, and increased reflexes were the chief symptoms and signs found.

Family History. Father was a teetotaller and nervous. His mother was a suicide. Patient was always moody, depressed and antisocial. Had suicidal tendencies.

(2) *Diagnosis: Shell-shock, Constitutional Psychoneuropath.* J. K., aged 25, active service one month. August 17th, 1917, a high-explosive shell burst near by, badly dazing the patient. He had amnesia for several days following, terrifying dreams, much general tremor, and had occipital and frontal headache. He remains in one place very sad and morose. Physical manifestations of fear; no somatic injury.

Family History. Father used alcohol to excess, one sister insane and two sisters nervous.

Personal History. Never did well at school; could not learn; bit his nails until 14 years of age. He was always of a timorous nature, nervous and fearful. He smoked excessively and is a staunch teetotaller. He had many attacks of "melancholia" and always liked to be alone, much depression and antisocial, masturbation.

It is obvious that both these patients were probably insane or on the road to insanity before going into battle. Many other descriptions are those of traumatic neurasthenia, hysteria (with or without palsies) and of the traumatic neuroses in general.

Of the neurologic difficulties occurring without regard to battle, but purely the result of strain and fatigue, pseudoparesis has been described by J. Ramsey Hunt[5] as especially occurring in officers in training camps. I have seen two cases that might be so classified in officers who applied as private patients. One was nervous, had no knee jerks and had been frightened by some neurologist into the belief that he might have inherited syphilis. I thought he had simply been overworked in unaccustomed surroundings and, as he denied the possibility of infection and had a negative blood Wassermann, I advised him to go on with his war work as planned. The other I regarded as a neurasthenic.

Not infrequently paretics develop suddenly in war time, fulminating under the influence of strain just as they do in civil life. It is not infrequent for an attorney after a long trial, an athlete getting ready for a contest, a physician who stays up many nights in succession to suddenly develop paretic phenomena. Often symptoms of paresis appear after slight or severe injuries and the tendency of relatives of the injured person is to blame his trouble upon the injury which is merely coincidental to the original cause of the disease, that is, syphilis, and at most serves only as an excitement. I have examined half a dozen or more paretics during the past three or four years for the State Industrial Accident Commission and for railroads, in which the patients attempted to recover damages, being sincerely and honestly convinced that they were entitled thereto.

If the preceding be correct, it is obvious that one can predict the consequences of war upon many types of conscripts. Lieutenant Colonel F. W. Mott, who is quoted thruout much of the literature, says:

"A large majority of shell-shock cases occur in persons with a nervous temperament, or persons who were the victitms of an acquired, or inherited, neuropathy; also a neuropotentially sound soldier in this trench warfare may, from stress of prolonged active service, acquire a neurasthenic condition. If in a soldier there is an inborn timidity or neuropathic or psychopathic taint, causing a *locus minoris resistentiae,* it necessarily follows that he will be less able to withstand the terrifying effects of shell fire and the stress of trench warfare.

"Pierre Marie, Charcot, Nonne and others have come to similar conclusions."[6]

This is apparently the opinion of most neurologic writers on war psychoses. Much of the mystery which appears to surround the subject of shell-shock is based upon large numbers of victims of nervous and mental disorder suddenly projecting themselves into the consciousness, as it were, of amateur alienists and neurologists, that is, of general practitioners suddenly called to the front, who see in these disorders something mysterious and unusual simply because they have been unaccustomed except very occasionally to observing them in civil life.

I am a member of an advisory board which has examined perhaps fifteen hundred men. Of those rejected five claimed exemption because they had been in insane asylums, one because of "family periodic paralysis"; three were epileptics and two neurotics, and possibly five had neurosyphilis. Half a dozen mild neurasthenics asked exemption but were refused. Curiously, those who were victims of constitutional inferiority or potential dementia precox made no claims, being unaware that they were abnormal. There were many, not fewer than twenty or thirty, who I am certain will fail later. Most of them will be weeded out in the camps and one may well regret the expense and trouble incident to their ultimate rejection. But the Manual of Instructions is explicit as to whom the boards shall or shall not reject and the examiner is not permitted to exercise his discretion.

This may be good instruction, for the reason that some of the men who appear unfit may do fairly good work as soldiers. They are the kind of men whom the automobilist must look out for when driving thru a crowded working men's section of the city, the kind who step off the curb without looking back, who saunter leisurely thru traffic, who in lumber camps and similar places often do dangerous work, apparently unconscious that it is dangerous and who supply the large volume of injuries which are the results of carelessness and indifference. Their status, perhaps, can be determined only after they have served for a time. Officers recognize them, tho it is interesting to know that the non-commissioned officers are more helpful in detecting them than the officers, including the medical officers.

Major Graeme M. Hammond, who has charge of the neurologic work of the National Guard, in New York City, is quoted as saying: "The army surgeons with the troops could give little information as to the mental soundness of the men, tho they knew all about their physical condition, but it was soon discovered that the non-commissioned officers could give a certain amount of such information, so these men, usually sergeants, were asked to make lists of the men whom they believed would not make good soldiers. That helped a great deal."[7]

The non-commissioned officer recognizes the fault in the men thru their inability to learn drills and setting up exercises, thru sluggish performance of duty, slovenliness in the care of uniform and person, and other evidences that a feeble-minded or mildly demented person might be expected to exhibit. An advisory board, of course, cannot know how each man will react without trial, and it is possibly better to send in two or three worthless men who will be weeded out later than to reject one man who will make a good soldier. Of the kind whom I would reject if instructions permitted, are those who present the following syndrome:

Stigmata of degeneracy, such as malformations of the ears and jaws, stupidity and slow reactions in answering questions, indifference to surroundings, carelessness in clothing and bathing, and, most important, cyanosis of hands and feet with sluggish pulse and rather low blood pressure. These are marks that characterize constitutional inferiority and dementia precox, actual or potential. If allowed to enter the army, a subject thereof becomes the company "boob" or "queerstick" and the butt of practical jokers.

The neurasthenic makes a poor soldier. Notwithstanding that in time of peace he frequently does excellent work in a sporadic fashion, he reacts badly to fright, stress and strain. Osler urges that his enlistment be checked. Hammond urges that migrainous patients, at least those who suffer severely, be rejected.

Thom[8], of Camp Devens, reports the rejection of 372 cases of nervous and mental disease, classified as follows:

Feeble-minded	164
Epilepsy	92
Chronic alcoholism	27
Dementia precox	12
Constitutional psychopathic state	13
Psychoneurosis	9
Manicdepressive insanity	7
Hysteria	4
Drug	7
Syphilis of the nervous system	7

He also comments upon the objectors, whom he classifies into four groups: (a) the conscientious, (b) religious, (c) the insane and psychopathic, and (d) the malingerers.

It is difficult to make medical men, unacquainted with this class of work, fully understand and appreciate the kind of disorder I have in mind. For generations we have looked upon the weakling not at all as a medical problem but as a sociologic problem. We have scorned him, blamed him for incompetencies which were and are the result of structural weaknesses, criticised him because he did not rise in the world, used and commercialized him by making him do the lowest and least paid work and dubbed him with opprobrious names. When he has fallen in the struggle of life, we have hounded and persecuted him and altogether behaved as if he was at fault for his own weaknesses, expecting of him, notwithstanding his intellectual inferiority, the bodily strength of a normal man and the moral fortitude of the most highly developed. Thus, when a physical husky-looking person appears before the board and the neurologist comments upon his cyanotic hands and his sluggish reactions, other members sometimes found it difficult to see anything wrong with him. Two typical examples follow:

(1) G. W. P., aged 24, a strong well-built farmer, was noticed to have unusually bluish hands. His speech was rather slow but he an-

swered all questions with fair intelligence. He was classified as fit for full military duty, but was temporarily exempted on account of his work. About a month after the examination he appeared at my office saying he was afraid he had gonorrhea. He had feared this for a month or more but did not know where to go nor what to do about it. He had a slight balanitis only. He was in such a state of depression and fear that he could hardly talk. He had not slept for some days and was undernourished. I found it very difficult to convince him that he had no venereal disorder. He is a typical mild dementia precox case.

(2) E. C. was passed by the exemption board, but a month later was brought to my office by his mother as a private patient. He said he had been working in Seattle but had to leave there because they were watching him as a slacker. He believed some woman had followed him from Seattle and he had spoken to a number of girls, mistaking them for this woman whom he believed to be in love with him. He wanted to enlist, was and is fiercely determined to serve, but thinks the war is being fought somewhere in Seattle because of him and that the newspapers are printing stories about him. He is the kind of person who, in the days when men volunteered, was often enlisted because of desire to serve, yet he is very much demented. He was later arrested and committed to the State Hospital.

It may be pointed out that the total number of subnormal and defective people in the United States is estimated at about three per cent. My own estimates are that there are almost exactly three in every thousand confined in insane asylums, two in every thousand who are epileptic, fully as many as both of these together are borderliners or easily recognized feeble-minded, and the entire number thus made can be doubled, if all the constitutionally inferior are added. This does not include the host of people who get along well enough, provided they are not subjected to strain or stress, but if one includes all the great criminal, pauper and semi-pauper classes, the total number neuro- or psychologically deficient will approximate ten per cent. of the total population. It will be seen that the diseases of the nervous system play a large part in our national life.

I believe that from three to five per cent. of the conscripts, even as they pass the exemption board, will eventually be weeded out because of affections of the brain and nervous system or of constitutional inferiority which renders them unfit to serve as soldiers. If this number seems large, bear in mind that not much more than half the male population in the conscription age is physically fit for soldiers, if all causes for exclusion be considered.

Henry Viets says:

> "What can the Medical Corps of the United States Army do toward the prevention of shell-shock? Obviously it must be checked at the recruiting station or in the cantonment camps before the men leave for France. There ought to be no question in the minds of the medical officers as to the advisability of checking this condition at the source, for no one who has seen the results of modern warfare on the unstable mind can do otherwise then urge such measures with utmost vigor. It becomes the duty of each medical examiner to weed out from the recruits such men as are liable to shell-shock. By so doing an enormously important advance will be made in our army, as judged by the experiences of the other armies of the Allies."[9]

Profiting by the lessons taught the British, the United States is making every effort to detect and eliminate defectives before they have a chance to break down. The Government now has in the neighborhood of three hundred trained neurologists and alienists actually in service in various camps. Their work is well organized and will do more than any other single agency to lessen the number of defectives who enter the army and the mighty host of claimants for pension or indemnities of one kind or another after the war is over. The tuberculous patient dies and the victim of venereal disease is allowed no compensation. There remains only the group of persons whose disorders are so obviously the result of war with its hardships that they are easily understood and the neurologically and mentally deficient persons whose troubles are more or less intangible, in whom it is difficult to differentiate that which existed before the war and that which resulted from the war and whose ills, like the brook, go on forever.

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EDITORIAL

QUARANTINE OF VENEREAL PATIENTS LEGALIZED.

A recent decision of the supreme court of Washington has ended the controversy which has been prosecuted with more or less vigor during recent months by the legal fraternity of that state. During efforts to suppress venereal diseases in Seattle by quarantining infected persons in a ward of the City Hospital, the health commissioner confined some male patients for several weeks. In course of time their attorney instituted legal proceedings to obtain their release. A judge of the superior court appointed a commission of physicians to examine them and to ascertain whether they were afflicted with syphilis which they denied, altho it had been proven by laboratory examinations. The health commissioner refused to allow this examination and the case was appealed to the supreme court which has decided that it was within the province of the Board of Health to quarantine all cases of contagious diseases which are a menace to the public health.

As a means of aiding in the suppression of venereal diseases this is one of the most important steps which have yet been taken and Commissioner McBride is to be congratulated over winning the case before the supreme court. The precedent thus established will prevent further controversy and opposition to this method of controlling venereal disease which has been adopted by so many of the cities of the Northwest. It would be a fortunate occurrence if other opponents of established medical procedures would carry their hostilities to the courts, where a judicial decision might terminate an endless controversy in favor of right and reason.

ENROLLMENT OF PHYSICIANS.

Some uncertainty has arisen relative to continued enlistments in the Medical Reserve Corps of the Army and Reserve Force of the Navy, owing to the following statement authorized by the War Department Aug. 8, signed by Newton D. Baker, Secretary of War:

The War Department today has suspended further volunteering and the receipt of candidates for officers' training camps from civil life. This suspension will remain in force until the legislation now pending before the Congress with regard to draft ages is disposed of and suitable regulations drawn up to cover the operation of the selective system under the new law.

Fearing that this order might be misinterpreted by doctors who would not distinguish between enlistment as a private soldier and enrollment as an officer in the Medical Reserve Corps, on Aug. 9, Maj. Franklin Martin, chairman General Medical Board, asked the Secretary of War to issue a statement making clear this point. In response to this request, on Aug. 10 the following statement was authorized by the War and Navy Departments:

Orders issued by the War and Navy Departments on Aug. 8, suspending further volunteering and the receipt of candidates for officers' training camps from civil life, do not apply to the enrollment of physicians in the Medical Reserve Corps of the Army and the Reserve Force of the Navy. It is the desire of both departments that the enrollment of physicians should continue as actively as before so that the needs of both services may be effectively met.

(Signed) JOSEPHUS DANIELS,
Secretary of the Navy.
(Signed) NEWTON D. BAKER,
Secretary of War.

It is desirable that the definite attention of the medical profession be called to this interpretation, in order that enrollment for the Medical Reserve Corps of the Army and the Reserve Force of the Navy which is going on so rapidly at the present time, shall not be interrupted.

VOLUNTEER MEDICAL SERVICE CORPS.

Dr. Franklin Martin, member of Advisory Commission and Chairman of General Medical Board, Council of National Defense, gives the following explanation of the origin and purpose of this corps which will appeal to all physicians of the country: The Volunteer Medical Service Corps was authorized by the Council of National Defense on January 31, 1918. Under this authorization the membership of the corps consisted of all physicians who, because of overage, physical disability, dependents and essential home needs, were not eligible for service in the Medical Reserve Corps of the Army or Navy. On August 5 the Council of National Defense authorized a change in the scope of the organization and an increase and amplification of its Central Governing Board. Membership in the Corps, as now authorized, makes eligible to the Corps every legally qualified physician, including women physicians, holding the degree of Doctor of Medicine from a legally chartered medical school, without reference to age or physical disability, provided he or she is not already commissioned in the Government Service. This organization has now the approval of the President as indicated in the following letter:

THE WHITE HOUSE.
Washington.
August 12, 1918.

My Dear Dr. Martin:

I have received your letter of August 5, laying before me the matured plan for the reorganized Volunteer Medical Service Corps, of which you ask my approval. This work was undertaken by you under the authority of the Council of National Defense; it has had great success in enrolling members of the medical profession thruout the country into a volunteer corps available to supply the needs of the Army, Navy and Public Health Service. In cooperation with the General Medical Board of the Council of National Defense, the strong governing board of the reorganized corps will be able to be of increasing service, and thru it the finely trained medical profession of the United States is not only made ready for service in connection with the activities already mentioned, but the important work of the Provost Marshal General's Office and the Red Cross will be aided and the problems of the health of the civilian communities of the United States assured consideration. I am very happy to give my approval to the plans which you have submitted, both because of the usefulness of the Volunteer Medical Service Corps and also because it gives me an opportunity to express to you, and thru you to the medical profession, my deep appreciation of the splendid service which the whole profession has rendered to the nation with great enthusiasm from the beginning of the present emergency. The health of the Army and the Navy, the health of the country at large, is due to the cooperation which the public authorities have had from the medical profession; the spirit of sacrifice and service has been everywhere present and the record of the mobilization of the many forces of this great Republic will contain no case of readier response or better service than that which the physicians have rendered.

Cordially and faithfully yours,
(Signed) Woodrow Wilson,

Dr. Franklin Martin,
Advisory Commission,
Council of National Defense.

The Volunteer Medical Service Corps is exactly what its name indicates. It is a gentlemen's agreement on the part of the civilian doctors in the United States who have not yet been honored by commissions in the Army and Navy, and a representative board of governors consisting of officials of the Government associated with lay members of the profession, in which the civilian physician agrees to offer his services to the Government if required and asked to so do by the Governing Board. It is a method of recording all physicians who are not yet in service and classifying them so that their services when required will be utilized in a manner to inflict as little hardship on the individual as possible. It is a method by which every physician not in uniform will be entitled to wear an insignia which will indicate his willingness to serve his Government. As more than sixty per cent. of the physicians of the country will be utilized in caring for the industries at home and the health of the home people, this large percentage of necessity will be expected to maintain their home status and continue their ordinary professional work. Blank forms for enlistment in the Corps can be obtained by writing to Maj. Franklin Martin, Council of National Defense, Washington, D. C.

UTAH ASSOCIATION MEETING.

The Twenty-fourth annual meeting of Utah State Medical Association will be held at Salt Lake City, Sept. 10-11. The absence of so many men in war service renders it difficult to prepare programs this year. The following, however, possesses an interest that will attract all who are able to be present:

PROGRAM.

Tuesday, September 10.

Clinics 9:00 to 11:00 a. m.

Meeting of Council at 10:00 a. m.

Meeting of the House of Delegates, 12 noon.

Afternoon Session, 2:00 o'clock.

Anesthetics in Obstetrics, R. S. Allison, Salt Lake.

Discussion opened by W. A. Colton, Salt Lake, and Jane W. Skolfield, Salt Lake.

Static Labyrinth, W. E. Dickson, Oklahoma City.

Discussion opened by A. J. Ridges, Salt Lake and H. G. Merrill, Provo.

Traumatic Hysteria and Its Relation to Corporation Employes, W. Brown Ewing, Salt Lake.

Discussion opened by A. J. Hosmer, Salt Lake, and Geo. E. Hyde, Provo.

The Fundamental Principle and the Fundamental Procedure Essential in the Successful Treatment of Conditions Requiring Removal of the Urinary Bladder, R. C. Coffey, Portland, Oregon.

Discussion opened by W. G. Schulte, Salt Lake, and S. H. Allen, Salt Lake.

Evening Session, 7 o'clock.

Annual Banquet of the Utah State Medical Association, Hotel Utah.

President's Address, Fred Stauffer, Salt Lake.

Patriotic Addresses will be given by prominent speakers.

Wednesday, September 11, Morning Session, 10:00 a. m.

Clinics, L. D. S. Hospital.

The Present Status of the Surgical Treatment of Ulcer of the Stomach and Duodenum, R. C. Coffey, Portland, Oregon.

Discussion opened by R. T. Richards, Salt Lake, and R. S. Joyce, Ogden.

The Mental Measurement of Military Eligibles—A Chalk Talk Regarding the Moron Types in the U. S. Army, Chas. G. Plummer, Salt Lake.

Discussion opened by E. G. Gowans, Superintendent of Public Instruction, and W. R. Tyndale, Salt Lake.

Ectopic Pregnancy, Edward I. Rich, Ogden.

Discussion opened by H. E. Robinson, Ogden, and Fred W. Taylor, Provo.

Afternoon Session, 2:00 p. m.

Fractures—Especially Related to the General Practitioner, J. W. Aird, Provo.

Discussion opened by Ernest Van Cott, Salt Lake, and J. F. Noyes, American Fork.

The Use of the Thomas Splint in Fractures, E. F. Root, Salt Lake.

Discussion opened by John F. Critchlow, Salt Lake, and J. C. Landenberger, Salt Lake.

Surgery of the Prostate Gland, Geo. W. Middleton, Salt Lake.

Discussion opened by D. C. Budge Logan, and Geo. E. Robison, Provo.

Report of the House of Delegates.

Installation of the President.

Entertainments.

The Annual Banquet of the Utah State Medical Association will be given Tuesday evening at 7 o'clock at the Hotel Utah.

Tickets—$2.50—can be secured from the Committee on Arrangements.

The President's Address will be given at this meeting.

Mrs. Fred Stauffer will give a tea for the wives and lady guests of the members Tuesday, September 10, 2:00 to 5:00 p. m., 81 First Avenue.

MEDICAL NOTES

Commissions for War Service. Since our last issue the following names have been received of physicians who have received commissions, which have not hitherto been published in this journal:

OREGON.

Medical Reserve Corps, U. S. A.

Booth, C. J., Lebanon.
Pease, G. N., Portland.
Riggs, G. E., Albany.
Shearer, J. B., Cloverdale.
Wrightman, A. E., Silverton.

U. S. Naval Reserve Corps.

Adams, F. E., Harrisburg.
Bloom, C. F., Portland.
Johnson, J. P., Grants pass.
Luser, B. L., Portland.
Pomeroy, R. E. A., Portland.
Van Dusen, A., Astoria.

WASHINGTON.

Medical Reserve Corps, U. S. A.

Allen, H. E., Seattle.
Bowles, J. A., Seattle.
Brunson, E. L., Acme.
Carver, W. H., Yakima.
Chessman, F. M., Seattle.
Crosby, F. M., Kennewick.
Greason, C. E., La Conner.
Harris, J. E., Arlington.
Howe, S. S., Bellingham.
Jordan, Arthur, Seattle.
Lanter, E. C., Seattle.
Lazelle, H. G., Seattle.
Louden, J. P., Yakima
Miller, F. S., Spokane
Mount, H. A., Waitsburg.
Prencel, J. E., St. John
Rahal, G. G., Ronald.
Rosenthal, S. E., Spokane.
Russell, D. G., Seattle.
Schmidt, R. E., Grand Ronde.
Smith, M. E., Alaska.
Snow, A. G., Seattle.
Taylor, Owen, Kent.

U. S. Naval Reserve Corps.

Blair, H. C., Tacoma.
Brugman, J. C., Ewald.
Cole, T. O., Spokane
Dawson, J. T., Seattle.
Dowling, G. A., Seattle.
Dowling, J. T., Seattle.
Gross, E. C., Seattle.
Henry, J. E., Tacoma.
Hubbard, F. L., Spokane.
Lea, J. M., Big Lake.
McBride, J. S., Seattle.
McChesney, D. H., Seattle.
McClure, C. E., Seattle.
McKinney, M. W., Seattle.
McCurdy, R. J., Seattle.
Nickson, D. H., Seattle.
Parker, Frederick, Seattle.
Shiley, J. R., Seattle.
Sturgis, M. G., Seattle.
Thomson, C. H., Seattle.
Underwood, F. R., Seattle.

With Allies in Europe.

Runte, Janet, E., Seattle.
Thomson, James, Seattle.

IDAHO.

Medical Reserve Corps, U. S. A.

Anderson, C. M., Nez Perce.
Braddock, E. G., Lewiston.
Bryan, C. H., Kamiah.
Cooper, George, Buriey.
Dwyer, J. C., Coeur d'Alene.
Fairly, J. M., Orofino.
Gritman, C. L., Moscow
Hoyt, J. E., Kendrick.
Ihde, D. E., Lewiston.
Martin, C. J., Driggs.
Moody, C. S., Hope.
Prichard, J. R., Post Falls.
Slusser, C. W., Grangeville.
Weatherbell, Charles, Twin Falls.

UTAH.

Medical Reserve Corps, U. S. A.

Curtis, F. J., Salt Lake City.
Giesy, J. U., Salt Lake City.
Hoffman, C. E., Provo.
Ingbretsen, P., Ogden.
Irvine, A. R., Salt Lake City.
Jargensen, H. C., Salt Lake City.
Murphy, A. J., Salt Lake City.
Tyng, F. E., Salt Lake City.
Wright, E. S., Salt Lake City.

U. S. Naval Reserve Corps.

Odell, T. G., Lark.

OREGON.

Mackenzie Hall Nearly Completed. Mackenzie Hall, the first group of the new buildings for the medical school on Marquam Hill, Portland, is nearly completed and will soon be ready for use. It is three stories high, of reinforced concrete, faced with brick and terra cotta. This will be the new building for the medical school and will contain all the necessary equipment for the best class of instruction. This is the beginning of a group of buildings which will make this location a notable center of medical education.

Industrial Commission Hospital. There is talk of using some of the funds of the state Industrial

Insurance Commission to build a special hospital on the grounds of the University of Oregon Medical School in Portland. It is said that the business of the commission has increased to such an extent that a hospital of its own is needed to best care for injured men in industrial accidents thruout the state. The revenues of the commission are sufficient to build such a hospital.

Coos-Curry County Medical Society met at Marshfield August 8 in its bimonthly meeting. Papers were read by Drs. Richmond, Johnson, Houseworth and Shaw.

Dr. E. H. Porter, of Medford, was seriously ill last month from infection resulting from a wound on the hand.

Dr. C. J. Booth, of Lebanon, who has been captain in the medical corps at Ft. Flagler, wash., has been ordered to Astoria, where he will be promoted to major.

Dr. D. P. Love, of Junction City, 1st lieutenant, M. R. C., who has been stationed at Ft. Stevens, has been ordered to Ft. Michaels on the Yukon, where he will be Post Surgeon.

Dr. G. N. Pease, of Portland, 1st lieutenant, M. R. C., has been ordered to New York city for special work at a neurologic hospital.

WASHINGTON.

Licentiates of Examining Board. At the July meeting of the state examining board, held at Tacoma, forty-two candidates obtained license to practice. Ten of these were osteopaths. There were four women and one Japanese. The names of the licentiates, with addresses, are as follows:

Anderson, Alma, D. O., Centralia.
Antisdel, Marie, Chicago, Ill.
Bachelder, B. B., Portland, Ore.
Barker, R. R. H., D. O., Los Angeles, Cal.
Barry, Linda H., Langley.
Benson, Reidar, Great Falls, Mont.
Brookbank, E. B., Forest Grove, Ore.
Burke, Gordon, Britannia Beach, B. C.
Caldwell, O. D., D. O., Los Angeles, Cal.
Croson, F. R., York, Neb.
Darst, John, Malden.
Davis, F. P. C., Spokane.
Davis, A. F. V., Kelso.
Gaston, I. E., Bremerton.
Guyton, J. F., D. O., Los Angeles, Cal.
Huxley, R. D., Tacoma.
Ice, R. D., D. O., Tacoma.
Kahn, Paul, D. O., Los Angeles, Cal.
Keyes, M. A., Bellingham.
Krulish, Emil, Port Townsend.
Macklim, J. E., Chicago, Ill.
MacLeod, E., Bothell.
McKay, Eva., D. O., Mabton.
Mizumachi, Minori, Seattle.
Mohr, G. J., Seattle.
Patton, F. R., Rose Lake, Ida.
Poynter, J. F., J. F., Davenport.
Robson, T. T., Billings, Mont.
Ross, E. L., Cashmere.
Schlotthauer, A. D., Loma Linda, Cal.
Schannon, C. W., Seattle.
Short, W. F., Seattle.
Simpson, R. L., Seattle.
Smith, C. T., Aberdeen.
Swartz, R. F., Seattle.
Taylor, C. L., D. O., Whittier, Cal.
Washburn, B. E., Carpenter, Mont.
Weston, A. M., D. O., Camp Lewis.
Wheelon, C. H., Seattle
Whiloow, L. W., Seattle.
Whiteaker, J. C., Seattle.
Young, N. H., Fort Steilacoom.

Conference on Tuberculosis. The Northwest Tuberculosis Conference will be held in Spokane, September 27-28. Representatives will be present from Washington, Oregon, Idaho, Montana, Utah and Wyoming. There will also be visitors from the east who are well known in tuberculosis work. A program is offered that will attract all interested in this line of work.

Unrivaled Health Record. During the first three weeks of August Camp Lewis presented a record health report. There was but one death during that period and this from suicide, with an average attendance of thirty men each day at the hospital. This is a remarkable record. Communicible diseases have been reduced to a minimum, averaging from 50 to 80 per week.

More Nurses Wanted. During the past month a state-wide campaign was launched to induce young women to enter intensive nursing courses. It is proposed to change the three years hospital course to one of eighteen months in order that the demand for nurses may be met. It is expected to grant these nurses temporary licenses as they obviously could not compete on equal grounds with nurses who have taken the regular three years course.

To Serve in Russia. Major W. D. Kirkpatrick, of Bellingham, has left for service in northern Russia, where he will do medical work for the U. S. army under the direction of the Red Cross. The character of work expected from him has not been announced. He has had an exceptional experience during the war period, the last year having been spent in Rumania. Consequently he is familiar with conditions and manner of work in Russia.

New Hospital to Be Built. Ellensburg is to have a modern hospital erected by funds subscribed by citizens. It will cost $40,000 and is to be built on a lot 163 x 150 feet. It will be two stories and basement, of concrete and tile construction. It will accommodate about 30 patients and so conducted as to be self-supporting.

New Centralia Hospital. Work is soon to begin on this institution, on which will be spent $50,000. The building will be of three stories, constructed of brick, and will be modern in all its appointments.

The Meadows Sanatorium. This institution will be located in the well known house at the Meadows, Seattle, which has been acquired for this purpose. It is a large and commodious building, situated on ample grounds. It is for the treatment of nervous and mental cases under the supervision of Dr. W. B. Gulick, recently of the Western Washington Hospital at Steilacoom.

Additional Buildings at Vancouver. The government has authorized the construction of six additional hospital buildings at Vancouver Barracks. Work upon them will begin at once. Three of these will be for contagious cases.

New City Hospital. The Bremerton City hospital is to be opened for use during September. The equipment for the hospital was made by subscriptions from residents from this city.

New Hospital for Seattle. Last month a spirited contest was carried on before the Seattle Board of Public Works between the promoters of a new hospital at East John and 16th Ave., and the officials of the church on opposite corner. After hearing all the arguments, showing what damage such an institution would inflict upon the community, the Board granted a permit for the erection of the hospital, more details of which will be presented later.

Detention Hospital for Venereal Diseases. Snohomish County and City of Everett will cooperate in establishing a free clinic for venereal diseases. It will be provided with suitable accommodations in the city with the necessary attendants of doctors and nurses. It has been suggested that the Monroe Reformatory might be outlined as a detention home, since its population is now so small that there is sufficient space for this purpose.

Free Clinic at Vancouver. The city of Vancouver has established a free clinic for patients with venereal diseases which will be open three afternoons a week.

Clinic and Detention Home at Bellingham. Preparations have been made for the treatment of venereal diseases in Whatcom county by the establishment of a clinic and detention home in Bellingham. The expense will be divided between the county and the city.

Isolation Hospital at Yakima. It is proposed to establish treatment for venereal diseases in Yakima County in an isolation hospital to be sustained by the city and county. It has been suggested to utilize the isolation hospital for contagious cases in the southern part of the city.

Commander of Base Hospital. Major Geo. W. Hawley, formerly of Seattle, has been appointed commander of Base Hospital No. 9 in France, known as the fracture hospital. Major Hawley has an international reputation as an orthopedic specialist. He practiced in Seattle several years and was the founder of Minor Hospital.

Member of State Board. Governor Lister has appointed Dr. Elmer Hall, of Walla Walla, a member of the state board of medical examiners.

Resigns as State Senator. Dr. W. Durand, of Colfax, who is commissioned in the Medical Reserve Corps, is also a State senator. According to the rules of the Adjutant General he has been obliged to vacate the latter office.

Value of Sphagnum Moss. The popularity of moss dressings has developed a great interest in its collection in the Pacific Northwest, where it is said 90 per cent. of the world's available supply is found. This moss is said to be 16 times more absorbent than cotton. One ounce of it will absorb 15 ounces of water.

Lieut. Colonel C. G. Northington, of the U. S. Army Base Hospital at Camp Lewis, has been transferred to Fort Douglas, Utah, where he will be commanding officer of the Base Hospital.

Capt. A. P. Calhoun, of Seattle, who has been located for some time at Camp Lewis, has been placed in charge of the neuropsychiatric service.

Dr. J. E. Harris, in charge of the Arlington hospital for the past eleven years, has entered the medical corps of the U. S. Army. Dr. E. C. Leach, of Edison, has taken charge of the hospital.

Dr. E. R. Dunham, of Sedro Woolley, has moved to Seattle.

Dr. W. R. Johnson, of Pe Ell, has been appointed health officer of that city.

Dr. G. W. Overmyer, formerly of South Bend, has located at Monroe.

Wounded in France. Dr. F. J. Cullen, of Napavine, who has served for some time in France, is reported to have been seriously wounded.

Capt. H. S. Argue, of Camp Lewis Base Hospital, who practiced in Tacoma for many years, was married in Tacoma last month to Miss Anne Watrous.

Capt. E. C. Wheeler, of Tacoma, who has been with the Base Hospital at Camp Lewis, has been ordered to Des Moines, Ia., to Base Hospital No. 79

Dr. S. D. Barry, of Puyallup, who has been stationed at a spruce camp near Monroe, has been promoted from the rank of lieutenant to captain in the army.

OBITUARIES.

Dr. Harry F. McKay, of Portland, Ore., died at Lents Junction, Aug. 23, from arteriosclerosis. He was born in Ireland in 1862 and came to America 28 years ago. He practiced in Portland for many years and was active in the official and business life of the city. At the time of his death he was president of the State Board of Medical Examiners and was the Multnomah county physician.

Dr. Butler Preston died in Seattle, August 12, aged 87 years. He was a veteran of the civil war and practiced in many parts of Washington, combining the practice of medicine with the duties of a clergyman.

Dr. E. F. Fraser died August 7 in Seattle, at the age of 88 years. He was born in Canada in 1830 and graduated from Oberlin college in 1854 and in 1864 from the Hahnemann Medical College of Minnesota. He practiced in Chicago, Pennsylvania and San Francisco and spent his declining years in Seattle.

THE AMERICAN TRANSPORTATION SYSTEM.

The American transportation system is briefly described as including a steam railway mileage (all tracks) of 397,014 miles, owned or controlled by 2,905 companies, employing 1,700,814 persons. Their property also comprised various boat and steamship lines engaged in coastwise transportation and navigating an inland waterways system which included some 57 canals, 3,057 miles in length, as well as many thousand miles of navigable rivers, lakes, bays, sounds, and inlets. Of the 2,905 railway companies, 185 operated major systems, each of which had an annual operating revenue of $1,000,000 or more, 221 were switching or terminal companies, 1,434 were plant facility roads constructed primarily to serve some particular factory or industry, and 765 are what have come to be described as "short-line" railways, dependent upon one or more of the larger systems for through connections.

CORRESPONDENCE

HOSPITAL EXPERIENCES IN FRANCE.

Dear Doctor:—

Since coming to this hospital I have picked up quite a little French, and would pick up a great deal more if all the men in the mess did not insist upon talking to me at once, each one a little louder than the other. But in spite of the noise I feel that I am making a little progress. I am told that I shall soon be transferred to another fracture hospital, and I rather hope I shall, provided I can get away from this d—— French cooking. I have eaten pig's ears and pig's tongue and pig's lips until I am ashamed to look at a pig. There may be some portion of the pig's anatomy which I haven't eaten, but just now I fail to recall just what portion it is. An orthodox Jew would have a devil of a time in this mess.

Occasionally the pig program is varied by a service of eggs, but they are merely warmed. They call them boiled but I think they are yanked right out from under the hen, and served before the heat has had a chance to be dissipated. My objection to an egg served in that way is not the taste of the thing, but the fact that I find it quite impossible to eat one without having to scrape the greater portion of it off my chin. The French, however, seem to have reduced this matter to a science. They create a sort of vacuum over the egg, producing a sort of water spout and up comes the egg. Aside from the noise the system is fine. A Maxim silencer would turn the trick to a nicety. They are to be congratulated upon their success, considering that the egg must be drawn thru enough whiskers to stuff an automobile cushion.

In my previous letter I had intended to mention the system of giving anesthetics in this hospital, but I think I forgot it. It is some system. The anesthetist has a big nickel-plated affair, which looks like an overgrown hand grenade, which he fills with ether. He then slips up on the blind side of the patient, clasps the grenade over his face, a bunch of assistants throw themselves across the patient and the war is on. So far all the patients have survived. I asked the head surgeon if they always gave ether and he replied that they always gave it the first time, but that they had found it almost impossible to give it the second time. I'm sure he is right. To my mind they should be congratulated in being able to pull the thing off the first time. They couldn't if the men weren't wounded.

I feel sorry for you in your trouble with the Government. Still it is better to suffer in the U. S. than to be shot as a traitor in Germany. Being taken prisoner by the Germans is about the last thing I should like to contemplate. I am told that their favorite amusement with captured medical men is to castrate them. Just why, I do not know. Nor do I care to get close enough to find out. My curiosity is not that great. There are a lot of things which I should like to tell you and many of them would probably be more or less interesting, but unfortunately the censor sees fit to cut out a great part of the interesting stuff. But it will keep, provided I do.

Fraternally yours,

Somewhere in France. C. F. Eikenbary.
April 13, 1918.

My Dear Doctor:—

Right now I am too tired mentally and physically to think straight. You have read of the drive of the Crown Prince's Army for Paris. Our division was thrown in to check the drive, and it was our division, or rather a part of it, practically unaided, that stopped the drive. The way these men tore into the Germans was something terrific. They simply tore all Hell out of them. I was placed in the hospital some miles back of the line and have been there ever since.

I have never worked so hard in my life and I sincerely hope I shall never again have to do such work. For awhile we ran four tables in one rather small operating room, and had to work without an assistant. In one morning I did two belly cases, three brain cases, and the Lord only knows how many extremity cases. If Harvey Cushing could have seen me do the brain cases he would have wept but not for joy. This thing kept up for days and toward the end I could stitch up "guts" and sleep at the same time. The work has quieted down now to the point where we can occasionally take off our clothes, and between acts we manage to grab off a little sleep on the operating table. Incidentally I should like to remark that an operating table presents about as much in the way of comfort as a stone quarry would.

I was to have been transferred to a Base Hospital a few weeks ago, but I sort of got the battle odor in my nostrils and asked to have the orders cancelled for awhile. I rise to remark that I am now absolutely satisfied. I've seen all the blood I wish to see in the rest of my natural life. As Irving Cobb once remarked, "I'm for peace." I shall probably get back to a Base Hospital within the next few weeks, when there should be more time to get up some papers and some other work I have in mind. I wish I could tell you of the spirit of the wounded men and some of the stories that have come back. But it is a long story and I am too tired. Later on I shall try to write it up in full. I am sure it can never leave my memory.

I shall write more at length as soon as I have more time and am not so tired, also when I can use more deliberation.

Most sincerely yours,

Somewhere in France. C. F. Eikenbary.
June 21, 1918. Spokane, Wash.

REPORTS OF SOCIETY MEETINGS

OREGON STATE MEDICAL ASSOCIATION.

MINUTES OF THE HOUSE OF DELEGATES OF THE OREGON STATE MEDICAL ASSOCIATION, HELD INCIDENT TO TRISTATE MEETING AT SEATTLE, WASHINGTON, JULY 17-19, 1918.

HOUSE OF DELEGATES.

FIRST SESSION.

July 17, 9:30 o'clock a. m.

The meeting was called to order by Third Vice-President, H. J. Clements, of Salem, the President and First Vice-President being in the service and the Second Vice-President being detained on account of illness. The Acting Secretary, Dr. A. J. Browning, kept the record of the meeting.

Roll call showed a quorum not present. Dr. Fulton, of Astoria, suggested that the Acting President appoint those in attendance alternate delegates, and the following were authorized to act as such: Drs. Banner Brooke, Louis Buck, A. G. Bettman, Jessie McGain, L. O. Roberts, Kitty Plummer Gray, of Portland; Dr. F. E. Boyden, of Pendleton; Dr. B. L. Steeves, of Salem, and Dr. A. A. Witham, of Grants Pass. Thereupon a quorum was declared present. Dr. Lewis was accepted as a delegate from Clatsop County.

The minutes of the last annual meeting were read by the Acting Secretary. Dr. Barbee objected to the use of the word "slacker" in the resolution offered by Dr. Andrew C. Smith. He moved that a committee of three be appointed to draw up resolutions to cover the point at issue. Motion duly seconded and carried, and Drs. Barbee, Bettman and Witham were appointed to constitute said committee. The minutes were then approved.

The Acting Secretary read the annual report of Secretary C. J. McCusker, who had become a member of the Medical Reserve Corps. Upon motion duly made, seconded and carried, the report was referred to the following committee appointed by the Acting President: Drs. Brooke, Gray and Boyden.

The annual report of the Treasurer of the Association was then read by the Acting Secretary in the absence of the Treasurer, Dr. Manion, and referred to the following committee appointed by the Acting President: Drs. Steeves, Buck and Lewis.

Reports of the standing committees were deferred.

Thereupon, on motion duly made and seconded, the meeting was adjourned until July 18, at 8:30 o'clock.

SECOND SESSION.

July 18, 8:30 o'clock a. m.

The meeting was called to order by Acting President Clements. The Acting Secretary kept the record of the meeting.

The reading of the minutes of the previous meeting by unanimous consent was dispensed with.

The committee appointed to report on the annual report of the Secretary submitted its report, and the same, upon motion duly made and seconded, was accepted and ordered placed on file, and the same is hereto attached and made a part hereof.

The special committee appointed by the Acting President yesterday submitted the following resolution:

"Whereas, there is urgent need for medical officers in the war service;

"Be it Resolved, that it be the sense of the Oregon State Medical Association in session at Seattle, Wash., July 17 and 18, that it is the duty of every physician to enroll for such service as health and circumstances will permit."

The report was accepted and ordered placed on file.

The Acting President then stated that the next order of business was the report of the committee on nominations, the committee being the house of delegates, the report to be made to the association this afternoon, and that nominations were now in order.

Thereupon the following nominations were duly and properly made:

For President:
  Dr. C. M. Barbee, nominated by Dr. Louis Buck.
  Dr. H. J. Clements, nominated by Dr. B. L. Steeves.
For President-Elect:
  Dr. W. B. Holden, nominated by Dr. A. G. Bettman.
  Dr. B. L. Steeves, nominated by Dr. L. O. Roberts
First Vice-President:
  Dr. F. E. Boyden, of Pendleton, nominated by Dr. Brooke.
  Dr. L. O. Roberts, nominated by Dr. Buck.
Second Vice-President:
  Dr. Louis Buck, nominated by Dr. Brooke.
  Dr. A. G. Bettman, nominated by Dr. Witham.
Third Vice-President:
  Dr. B. A. Cathey, Condon, nominated by Dr. Steeves.
  Dr. K. P. Gray, nominated by Dr. Buck.
Secretary:
  Dr. A. J. Browning, nominated by Dr. Bettman.
  Dr. Banner Brooke, nominated by Dr. Buck.
Treasurer:
  Dr. Jessie McGain, nominated by Dr. Brooke.
  Dr. D. H. Rand, nominated by Dr. Bettman.
Delegate to A. M. A.:
  Dr. W. T. Williamson and Dr. William House.
Two Councillors to Act for Five Years:
  Dr. R. C. McDaniel; Dr. Roy Stearns; Dr. Lewis.

The report of the councillors was called for, and Dr. C. J. Smith responded with a brief summary of the activities of the council.

Dr. C. J. Smith also reported from the Committee on Public Policy in regard to the workmen's compensation law, and stated that it will be necessary to initiate a petition to perfect a change in the state constitution.

The auditing committee, by Dr. Steeves, its chairman, reported that they had audited the report of the Treasurer, and found that the same was correct in every respect. Upon motion duly made and seconded the report of the committee was adopted.

Thereupon the Acting President announced that the first order of business in the regular session would be the election of officers.

Upon motion duly made and seconded, the house of delegates adjourned.

THIRD SESSION.

July 18, 1:30 o'clock p. m.

The meeting was called to order by the Acting President.

The Acting Secretary kept the record of the meeting.

The secretary was instructed to read the following proposed amendment to the Constitution, which had been submitted at the preceding annual meeting:

> "That Article VIII, section 2, be amended by inserting after the third line the words 'of one year,' the following: 'Provided that the president shall be elected one year in advance of taking office, and during such year shall be ex-officio a member of the State Council.' "

The amendment was voted upon and passed unanimously.

The Acting President announced that the next order of business would be the report of the nominating committee and the election of officers.

He thereupon announced the names of the different nominees for office as the same appear in the meeting of the House of Delegates, and announced the election would first be for the president.

Thereupon a vote was taken by ballot and after the votes were collected and counted the acting President announced that Dr. C. M. Barbee, of Portland, was elected President.

The President announced the names of the candidates for first vice-president. Thereupon a vote was taken by ballot, and after the votes were collected and counted the President announced that Dr. F. E. Boyden, of Pendleton, was elected first vice-president.

The President then announced the names of the candidates for Second Vice-President. Thereupon a vote was taken by ballot, and after the votes were collected and counted the President announced that Dr. Louis Buck, of Portland, was elected Second Vice-President.

The President then announced the names of the candidates for Third Vice-President. Thereupon a vote was taken by ballot, and after the votes were collected and counted the President announced that Dr. B. A. Cathey, of Condon, was elected Third Vice-President.

The President then announced the names of the candidates for Secretary, whereupon Dr. Banner Brooke withdrew his name and moved that the rules be suspended and that the President be instructed to cast the vote of the association for Dr. Browning for Secretary. This procedure was followed and the President announced that Dr. A. J. Browning, of Portland, was elected Secretary.

The President announced the names of the candidates for Treasurer, whereupon Dr. Rand withdrew his name, and moved that the rules be suspended and the Secretary be instructed to cast the vote of the association for Dr. Jessie McGain. This procedure was followed and the President announced that Dr. Jessie McGain, of Portland, was elected Treasurer.

The President then announced the names of the candidates for councillors. Thereupon a vote by ballot was taken, and after the votes were collected and counted the President announced that Drs. R. C McDaniel and R. S. Stearns were elected.

Dr. Stearns moved that Dr. J. A. Pettit be made the alternate delegate to the A. M. A. meeting. Motion duly seconded and carried. Whereupon Dr. W. T. Williamson and J. A. Pettit received the unanimous vote of the Association as delegate and alternate delegate, respectively, to the next annual meeting of the American Medical Association. A motion was made to adjourn, which was duly seconded and carried.

Digitalis Therapy. J. H. Pratt, Boston (Journal A. M. A., Aug. 24, 1918), calls attention to the early work of Withering on digtalis which has apparently been largely overlooked by more recent observers. He also notices the various strengths of different preparations and the importance of the subject. It makes no difference in what form digitalis is given, provided it is sufficiently active, and there has been of late years at least a deficiency in this respect in most American preparations of the drug. German digitalis has, therefore, been more largely used in this country, but the author has obtained some wild leaf from the Northwest which has shown itself to be very active and of twice the strength demanded by the pharmacopeia. He has learned that active leaves can be obtained, at times at least, as far north and east as Portland, Maine, as far south as Virginia, in the Middle West and in the Rocky Mountains, and that it grows wild in great quantities in parts of Oregon and Washington. For the past eight years Pratt has followed the rule of Withering and pushed the drug until a physiologic effect was obtained. His experience has shown him that large doses are not dangerous when the cases are carefully followed, and that the drug gives brilliant results in heart failure associated with auricular fibrillation, and that it is beneficial in some cases of heart failure with normal rhythm. In hearts with normal rhythm, slowing of the pulse is still generally regarded as a measure of digitalis action but Pratt's observations confirm the findings of Mackenzie and Cohn and Fraser that the drug rarely slows the pulse except in auricular fibrillation until toxic symptoms are produced.

The action of strong digitalis in slowing the rapid pulse of auricular fibrillation furnishes a simple and reliable means for determining the activity of any digitalis preparation. Physicians should learn to recognize the presence of coupled beats with the stethoscope, and when they appear, the drug should be discontinued. The development of heart block may be followed by a striking improvement in the condition of the patient.

WAR SERVICE RECORD

OREGON.

ROLL OF HONOR.

Bellenger, J. E., Salem, M. R. C., U. S. A., died in service.
Denny, M. J., Portland, M. R. C., U. S. A., died from pneumonia at Camp Lewis, Wash.
Miller, W. L., Pendleton, died in war service in France, May 28, 1918.
Pratt, F. S., North Bend, M. R. C., U. S. A., died from pneumonia at Fort Riley, Kas.
Yielding, A. T., Portland, U. S. N., died from cerebrospinal meningitis, July, 1917, at Bremerton, Wash.

Medical Reserve Corps, U. S. A.

Abele, J. G., Portland.
Abraham, V. R., Hood River.
Adix, H. V., Estacada.
Allison, H. T., Heppner.
Anderson, E. E., Portland.
Anderson, H. J., Corvallis.
Barling, E. A., Portland.
Bartle, I. B., North Bend.
Barlett, C. J., Vale.
Bates, C. E., Salem.
Bean, H. C., Portland.
Belknap, H. P., Portland.
Bell, L. P., Ft. Stevens.
Bellinger, I. E., Sweet Home.
Belt, W. C., Newport.
Benson, R. L., Portland.
Benyas, N. M., Portland.
Besson, L. S., Portland.
Bevis, E. M., The Dalles
Billington, Chas., Portland.
Birney, V. C., Portland.
Biswell, Roger, Haines.
Blachly, A. T., Portland.
BoDine, C. E., Portland.
Booth, C. J., Lebanon
Boslough, A. W., Ashland.
Botkin, A. W., Portland.
Bouvy, Harry M., La Grande.
Boyden, G. L., Pendleton.
Brill, I. C., Portland.
Brown, E. H., McMinnville.
Brown, F. J., Yale.
Buck, G. H., Portland.
Bush, E. R., Ft. Canby.
Butler, F. E., Hot Lake.
Byrd, R. D., Salem.
Cahill, R. W., Portland.
Carl, G. G., John Day.
Carruth, H. E., Yamhill.
Cheshire, W. L., Roseburg.
Chisholm, W. P., Gold Hill.
Chilton, L. W., Canyon City.
Clancy, R. W., Medford.
Clay, H. E., Salem.
Coberth, Thompson The Dalles.
Coffen, T. H., Portland.
Colbert, S. M., Portland.
Cramer, I. H., Portland.
Craver, R. B., Yamhill.
Crockett, E. N., Portland.
Cropp, C. S., Salem.
Dalton, E. C., Portland.
Dammasch, F. H., Portland.
Darrow, G. E., Eugene.
Denny, M. J., Portland.
DeVere, B. F., Oakland.
Dickinson, S. B., Portland.
Dillehunt, R. B., Portland.
Dodds, H. C., Dufur.
Dodine, C. O., Portland.
Douglas, G. H., Portland.
Elwood, J. L., The Dalles.
Ellison, S. J., West Union.
Everett, E D., Lakeview.
Fawcett, A. J., Riddle.
Fenton, R. A., Portland.
Fields, R. H., Gardiner.
Finch, A. A., Astoria.
Firey, F. P., Portland.
Fox, M. C., Lakeview.
Frost, C. E., Portland.
Garner, J. L., New Pine Creek.
Garnjobst, J. H., Salem.
Gaunt, G. G., Hardman.
Gilbert, J. A., Portland.
Graham, J. P., La Grande.
Grant, D., Portland.
Greene, H. M., Portland.
Gregory, V. B., Joseph.
Gullian, W. T., Eugene.
Hamilton, N. B., Portland.
Hamilton, R. R., Klamath.
Hart, F. C., Portland.
Hawke, C. E., Forest Grove.
Hector, E., Springfield.
Hempstead, W. E., Oregon City.
Higgins, T. J., Baker.
Hockett, C. T., Enterprise.
Holland, L. G., Portland
Houck, G. E., Roseburg.
Howard, M. G., Junction City.
Hughes, J. A., Portland
Hynson, G. L., Portland.
James, R. J., Portland.
Johnson, W. T., Corvallis.
Johnston, Wilson, Portland.
Jones, M. J., Portland.
Jones, N. W., Portland.
Joseph, E. C., Corvallis.
Joyce, T. M., Portland.
Kane, E. J., Portland.
Kauffman, H. R., Forest Grove.
Keizer, P. J., North Bend.
Kinney, A. E., Astoria.
Kester, Eugene, Springfield.
Kettle, W. W., Woodburn.
Kinney, K. W., Astoria.
Kleinsorge, R. E., Silverton.
Krick, C. A., Oswego.
Kuykendall, J. E., Eugene.
Knox, W. S., Portland.
Ladd, W. S., Portland.
LaFerto, A. D., Portland.
Lefevre, S. F., Bridal Veil.
Lewis, F. D., Salem.
Lieuallen, F. A., Portland.
Love, D. P., Eugene.
Low, G. E., Coquille.
MacKenzie, K. A. J., Portland.
Manion, W. O., Portland
Mann, S. J., Bandon.
Marcellus, M. B., Portland.
Matson, R. W., Portland.
Matthis, J. O., Monmouth.
McCollom, J. W., Portland.
McCool, J. L., Portland.
McCowen, A. C., Cove.
McCusker, C. J., Portland.
Menne, F. R., Portland.
Menzies, C. S., Portland
Miller, T. H., Eugene.
Miller, D. F., Bend.
Milnor, G. C., Portland.
Mingus, E., Marshfield.
Moore, H. B., Portland.
Moore, C. S., La Grande
Moran, K. P., Portland.
Morrison, R. D., Carlton
Morrow, E. V., Portland
Morse, E. W., Portland.
Mott, L. H., Ft. Stevens.
Mount, F. R., Oregon City.
Mount, H. S., Oregon City.
Murphy, F. P., Portland.
Myers, E., Portland.
Nichols, H. S., Portland.
Norton, W. H., Portland
Palmer, C. H., Mabel.
Palmer, D. L., Portland.
Pargon, J. A., Portland.
Parpola, Janfred, Astoria.
Patterson, O. E., Southerlin.
Paulson, N. P., Portland.
Pearce, L. M., Baker.
Pease, G. N., Portland.
Petheran, C. C., Portland.
Phillips, W. J., Corvallis.
Pieno, H. D. W., Hood River.
Plamondon, J. D., Pendleton.
Pollard, W. H., Springfield.
Porter, E. H., Medford.
Pratt, F. S., North Bend.
Prince, G. E., Falls City.
Prinsing, Jacob, Ontario.
Racer, F. H., Woodward.
Ralston, F. L., La Grande.
Rankin, J. S., Newberg.
Riggs, G. E., Albany.
Robbins, C. W., Gold Beach.
Roberg, D. N., Portland.
Roche, V. L., Woodburn.
Rockey, E. W., Portland.
Rockey, A. E., Portland.
Rockey, Paul, Portland.
Rosenberg, J. H., Prineville.
Rosenberg, H. L., Portland.
Rosenfield, A. S., Portland.
Ross, D. R., Salem.
Sargentich, P. S., Portland.
Saunders, C. S., Brookings.
Schaife, B. F., Eugene.
Scott, W. G., Portland.

Sears, C. E., Portland.
Sefton, J. W., Hood River.
Selling, Lawrence, Portland.
Sellwood, J. J., Portland.
Sharkey, R. L., Portland
Shea, W. A., Portland.
Shearer, J. B., Cloverdale.
Shoot, H. E., Portland.
Sifton, J. W., Hood River.
Skene, W. H., Portland.
Smith, A. W., Portland.
Smith, C. H., Weston.
Smith, R. L., Portland.
Smith, W. C., Salem.
Snider, C. N., Portland.
Sommer, E. A., Portland.
Spalding, L. M., Pilot Rock.
Standard, S. C., Huntington.
Stearns, R. W., Medford
Steelhammer, H. W., Silverton.
Stewart, J. A., Portland.
Stewart, W. E., Portland.
Story, L., Portland
Straw, E. E., Marshfield.
Streitz, E. H., Portland.
Stricker, F. D., Grant's Pass.
Strohm, J. G., Portland.
Swenson, E. J., Portland
Taylor, W. R., Milwaukee.
Tharp, H. J., Pendleton.
Thompson, J. H., Enterprise.
Tiedemann, A. W., Baker.
Traux, J. P., Grant's Pass.
Underwood, H. L., La Grande.
Van Doren, F., Seaside.
Van Dusen, Arthur, Astoria.
Vehrs, G. R., La Grande.
Vincent, L. H., Crane.
Vincil, F. H., Roseburg.
Vose, W. H., Portland.
Wade, B. N., Portland.
Waffle, E. B., Astoria.
Wainscott, C. O., Hermiston.
Wallace, B. R., Albany.
Waller, E., Eugene.
Waugh, J. M., Hood River.
Webb, J. E., Mt. Angel.
Welsh, O. A., Oregon City.
Wetherbee, J. R., Portland.
Wheeler, C. E., Klamath Falls.
Wheeler, R. H., Eugene
White, C. S., Portland.
Whitney, E. L., Portland
Wight, O. B., Portland.
Willington, R. H., Portland.
Wilson, G. F., Portland.
Wood, Frank, Portland.
Wood, J. F., Portland.
Wood, R. L., Amity.
Wooden, J. L., Clatskanie.
Wrightman, A. E., Silverton.
Yenney, R. C., Portland.
Ziegelman, E. F., Portland.
Zimmerman, E. L., Eugene.

U. S. Naval Reserve Corps.

Adams, F. E., Harrisburg.
Bell, J. F., Portland.
Blakely, C. L., Baker.
Bloom, C. F., Portland.
Daus, E. A., Portland.
Dellar, T. A., Portland.
Farrior, J. B., Portland.
Fortmiller, G. E., Albany.
Gaston, J. E., Astoria.
Ghormley, J. C., Portland.
Harding, Harry, Portland.
Hart, H., Medford.
Hitchcock, E. D., Portland.
Jewell, J. D., Portland.
Johnson, J. P., Grants Pass.
Johnson, J. R., Joseph.
Jones, W. W., Jordan Valley.
Landis, R. P., Corvallis.
Luser, B. L., Portland.
Manion, J. L., Portland.
McCall, R. G., Marshfield.
McMurdo, P. F., Portland.
Montgomery, G. W., Falls City.
Pomeroy, R. E. A., Portland.
Saurman, J. S., Burns.
Scott, E. K., Portland.
Sinclair, J. A. B., Portland.
Smalley, R. B., Portland
Smith, W. E., Portland.
Spencer, W. O., Portland.
Steinmetz, E. P., Portland.
Story, Geo. B., Portland.
Strong, H. L., Portland.
Thatcher, H. V., Portland.
Van Dusen, A., Astoria
Wade, C. B., Roseburg.
Warner, D. H., Portland
White, R. F., Portland.
Whiteside, G. S., Portland.
Young, R. G., Portland.

WASHINGTON.

ROLL OF HONOR.

Green, A. de Y., Prosser, Captain M. O. R. C., Graduate of Georgetown University, 1901. Died Nov. 15, 1917.

Hill, R. C., Irondale, Captain M. O. R. C., Graduate of Cincinnati Medical College, 1892, and McGill University, 1906. Died April 18, 1918.

Laws, C. E., Tacoma, Lieutenant, M. O. R. C., Graduate of Ohio Medical College, 1899. Died April 21, 1918.

Medical Reserve Corps, U. S. A.

Adams, J. W., Waterville.
Ahlman, E. R., Hoquiam.
Allen, H. E., Seattle.
Allen, J. A., Medical Lake.
Allen, R. A., Tacoma.
Anderson, A. E., Hoquiam.
Anderson, F. W., South Bend.
Argue, H. E., Tacoma.
Austin, O. R., Aberdeen.
Axtell, W. H., Bellingham.
Barry, S. D., Puyallup.
Baumgarten, R. C., Seattle.
Beatty, J. F., Everett.
Beckett, E. E., Seattle.
Beebe, O. E., Bellingham.
Beeler, G. W., Seattle.
Bell, H. Y., Centralia.
Benedict, C. C., Seattle.
Betts, A., Spokane.
Betts, C. A., Seattle.
Bickford, E. C., Seattle.
Bickford, F. J., Centralia.
Bird, F. A., Kelso.
Black, F. A., Seattle.
Blair, F. M., Lyman.
Blair, H. B., Tacoma.
Blair, J. B., Vancouver.
Boone, W. H., North Yakima.
Booth, J. R., Seatle.
Bowles, J. A., Seattle.
Brachvogel, N. W., Montesano.
Brand, W. W., Rosalia
Brandt, W. H., Auburn.
Brinson, E. L., Acme.
Brobeck, C. J., Tacoma.
Brooks, S. G., Anacortes
Brown, H. D., Mt. Vernon.
Brown, L. C., Seattle.
Brujes, D. G., Dayton.
Bryant, F. A., Colfax.
Buckner, H. T., Seattle.
Burdick, C. M., Kent.
Burg, W. A., Uniontown
Burke, R. T., North Bend.
Butts, C. E., Spokane.
Byrne, J. G., Spokane.
Calhoun, A. P., Seattle.
Campbell, D. R., Pullman.
Carroll, F. M., Seattle.
Carter, P. I., Port Townsend.
Carver, W. H., Yakima.
Cassell, R. J., Mt. Vernon.
Cassels, W. G., Seattle.
Chambers, J. M. P., Vancouver.
Charlton, W. R., Spokane.
Chase, R. J., Dayton.
Chessman, F. W., Seattle.
Clark, T. G., Everett.
Clizer, C. B., Tekoa.
Clough, H. B., Okanogan.
Collier, L. B., Seattle.
Collins, F. H., Goldendale.
Collins, I. S., Spokane.
Conway, N. W., Medical Lake.
Cornett, G. W., Yakima.
Corson, W. H., Seattle.
Couche, J. D., Twisp.
Cowan, C. B., Seattle.
Cox, E. W., Monroe.
Cox, S. L., Mt. Vernon.
Cox, W. C., Hartline.
Crampton, J. H., Spokane.
Crosby, F. M., Kennewick.
Cullen, F. J., Napavine.
Cunningham, W. F., Seattle.
Curren, Thomas, Tacoma.

Current, E. H., Spokane.
Cutliffe, W. O., Seattle.
D'Arc, H. T., Mt. Vernon.
Davidson, C. F., Seattle.
Day, W. W., Dayton.
Delaney, F. D., Tacoma.
Demartini, S. A., Tacoma.
Dewey, L. S., Okanogan.
DeWitt, Jr., C. H., Tacoma.
DeWitt, C. H., Tacoma.
Dulin, C. T., North Yakima.
Durrant, J. A., Snohomish.
Duryee, A. P., Everett.
Eagleson, J. B., Seattle.
Eaton, C. E., Seattle.
Edwards, J. W., Port Townsend.
Edwards, Orange, Seattle.
Eldridge, J. L., Snohomish.
Elmore, S. G., Pasco.
Elvins, Spokane.
Engels, C. F., Seattle.
Everly, Walter, Seattle.
Fales, J. E., Eatonville.
Falk, F., Seattle.
Farley, R. H., Spokane.
Farmer, G. W., Greenacres.
Fassett, F. J., Seattle.
Fick, E. P., Seattle.
Findley, H. P., Everett.
Fleming, B. E., McCleary.
Frazee, C. M., Sedro Woolley.
Gammon, C. P., Tacoma
Gardner, F. P., Seattle.
Gerhardt, A. E., Wenatchee.
Ghering, R. L., Spokane
Glenn, C. R., Kelso.
Goetter, R. F., Colville.
Goodenow, L. L., Aberdeen.
Gould, A. R., Kent.
Gray, G. A., Spokane.
Greason, C. E., La Conner.
Griffith, T. E., Ft. Simcoe.
Groenlund, W. G., Seattle.
Grove, C. E., Spokane.
Hall, D. C., Seattle.
Hamblen, R. N., Spokane.
Hamber, C. A., Clewelah
Harris, J. E., Arlington.
Harris, J. L., Pullman.
Harbaugh, C. C., Sedro-Woolley.
Harrison, J. I. M., East Sound.
Helton, A. J., Yakima.
Henby, A. E., Seattle.
Henderson, J. M., Seattle.
Hendricks, R., Spokane.
Hewitt, H. H., Seattle.
Hill, B. B., Colfax.
Hill, Elmer, Walla Walla.
Hill, R. C., Irondale.
Holtz, K. J., Seattle.
Hood, C. S., Ferndale.
Hooper, C. D., Richland.
Hopkinson, L., Aberdeen.
Hough, W. J., Tacoma.
Howe, S. S., Bellingham
Hughes, C. A., Ellensburg.
Hunt, John, Seattle.
Hunter, R. F., Hoquiam.
Hunter, C. D., Tacoma.
Hurd, E. T., Seattle.
Hurley, V. J., Hoquiam.
Hyde, F. T., Port Angeles.
Ingersoll, E. L., Spokane.
Jackson, W. L., Burlington.
Janes, E. W., Tacoma.
Johnson, A. C., Spokane
Johnson, W. R., Chehalis.
Joiner, W. E., Seattle.
Jones, C. W., Elma.
Jones, E. O., Seattle.
Jones, Ernest, Mt. Vernon.
Jones, W. J., Colville.
Jonez, H. D., Tacoma.
Jordan, Arthur, Seattle.
Judah, J. S., Leavenworth.
Judd, H. S., Tacoma.
Kane, J. P., Tacoma.
Kantner, W. C., Seattle
Karshner, W. M., Puyallup.
Keeler, C. E., Yakima.
Kellam, C. C., Port Blakely.
Keslina, O. G., Arlington.
Kelton, Walter, Seattle.
Kinne, J. D., Aberdeen.
Kintner, W. C., Seattle.
Klamke, E., Port Gamble.
Kniskirn, E. L., Centralia.
Knott, H. J., Seattle.
Knox, J. F., Almira.
Lacey, M. J., Auburn.
Lambert, S. E., Spokane.
Lanter, E. C., Seattle.
Lapidewski, C., Seattle.
Lauman, N. M., Randall
Laventue, L. A., Ritzville.
Laws, C. E., Tacoma.
Lazelle, H. G., Seattle.
Leach, E. C., Edison.
Leiser, H. C., Vancouver.
Lemmon, F. J., North Yakima.
Lessing, A., Seattle.
Livingston, D., Centralia.
Lloyd, B. J., Seattle.
Louden, J. P., Yakima.
Lundgren, A. R., Spokane.
Lupton, Irving, Spokane.
Lyon, R. H., Bothell.
MacDonald, J. F., Hoquiam.
MacLean, A. B., Pe Ell
Makins, H. M., Selah.
Mapes, J. A., Index.
Marcy, G. E., Montesano.
Martin, H., Cashmere.
Matson, W. W., Tacoma
Matthews, J. D., Spokane.
Mattice, A. F., Seattle.
Mattson, W. W., Seattle.
McClure, C. E., Seattle.
McClure, W. L., North Yakima.
McCreery, C. R., Tacoma.
McIntyre, D., St. John.
McKibben, E. A., Seattle.
McKibben, E. C., Seat
McKinney, M. W., Seattle.
McNerthney, W. B., Tacoma.
Merritt, R. E., Toppenish.
Mertz, E. F., Concrete.
Miller, F. S., Spokane.
Miller, H. L., McMurray
Mitchell, W. A., Colfax.
Mitchell, W. B., Sumner
Monroe, D. D., Chewelah.
Monro, W. A., Tacoma.
Montague, E. A., Tacoma.
Montgomery, C. E., Walla Walla.
Moore, R. P., Davenport.
Moore, R. A., Tacoma.
Morse, R. A., Tacoma.
Morse, W. H., Spokane.
Mount, H. A., Waitsburg.
Murphy, G. E., Olympia.
Nace, A. G., Tacoma.
Nather, F. B., Spokane.
Nelson, I. A., Spokane.
Newell, R. I., Spokane.
Newgord, J. G., Yakima.
Null, M. M., Seattle.
Nynall, Y. J., Seattle.
O'Brien, H. B., Pasco.
O'Shea, W. M., Spokane
Osterman, A. J., Mt. Vernon.
Ostrom, H. C., Seattle.
Overmeyer, G. W., Seattle.
Palmer, W. G., Seattle.
Parker, Frederick, Seattle.
Parker, W. J., Cashmere.
Parr, R. L., Spokane.
Parsens, I. W., Everett.
Partlow, K. L., Olympia
Pasco, James, Tacoma.
Patee, E. P., Pullman.
Paul, B. E., Tacoma.
Paul, L. W., Ilwaco.
Payne, W. H., Sedro-Woolley.
Peacock, A. H., Seattle.
Pennock, W. J., Spokane.
Penney, W. B., Tacoma.
Perry, E. R., Raymond.
Perry, R. W., Seattle.
Phillips, G. W., Everett.
Pirot, B., Ferndale.
Plummer, Copeland, Seattle.
Pontius, N. D., Seattle.
Pope, E. F., Spokane.
Powell, I. W., Bellingham.
Pratt, W. A., Walla Walla.
Prencel, J. E., St. John
Purdy, J. S., Sultan.
Rahal, C. G., Ronald.
Randolph, H. C., Aberdeen.
Raub, J. B., Spokane.
Read, W. D., Tacoma.
Read, H. M., Seattle.
Reed, C. O., Friday Harbor.
Reinhardt, W. R., Spokane.
Rhea, E. B., Tacoma
Rich, E. A., Tacoma.
Richards, E. A., Coulee City.
Ridpath, P. G., Spokane
Robertson, J. B., Tacoma.
Roberts, N. E., Olympia.
Robinson, F. C., Walla Walla.
Robinson, H. H., Creston.
Ristine, E. F., Coupeville.
Rohrer, A. P., Spokane.
Rose, R. F., Spokane.
Rose, J. W., Touchet.
Rosenthal, S. E., Spokane.
Russell, D. G., Seattle.
Sawyer, E. D., Sultan.
Sayer, J. H., Seattle.
Schmidt, R. E., Grand Ronde.
Schrock, E. B., Seattle.
Schroeder, F. H., Tacoma.
Schutt, Ray, Bremerton.
Shaw, G., Anacortes.
Sheafe, E. V., Winlock.
Sheets, J. H., Buckley.
Shryock, H. W., Sumas.
Siebert, A. W., Wenatchee.
Simms, L. B., Tacoma.
Simpson, A. U., Seattle.
Slater, H. H., Deer Creek.

Smeal, J. S., Tacoma.
Smith, E. H., Seattle.
Smith, J. S., Bellingham
Smith, M. E., Alaska.
Smith, R. P., Seattle.
Snow, A. G., Seattle.
Soll, C. H., Monroe.
Spaulding, L. G., Kennewick.
Sprowl, F. G., Spokane.
Steagall, J. B., Tacoma.
Steele, W. E., Olympia.
Stewart, J. K., Everett.
Stewart, A. C., Ft. Steilacoom.
Stith, R. M., Seattle.
Stryker, R. S., Ridgefield.
Suttner, C. N., Walla Walla.
Swachkamer, W. B., Montesano.
Sweet, R. L., Enumclaw
Swift, G. W., Seattle.
Taylor, C. L., Sumner.
Taylor, Owen, Kent.
Taylor, W. H., Port Angeles.
Thompson, A. W., North Yakima.
Thompson, H. B., Seattle.
Thompson, J. D., Marysville.
Thompson, L. M., Reardon.
Tooker, R. N., Seattle.
Torland, Torlief, Seattle.
Trask, L. S., Burlington.
Trueblood, D. V., Seattle.
Tullar, A. G., La Crosse
Turner, P. A., Seattle.
Turner, J. R., Tacoma.
Ulman, F. G., Enumclaw.
Underwood, F. R., Seattle.
Upshaw, H. L., Tacoma
Vanderboget, C. L., Seattle.
West P. L., Riverside.
West, E. S., North Yakima.
West, P. C., Seattle.
Wheeler, E. C., Tacoma.
Wheeler, H. E., Spokane.
Whitacre, H. J., Tacoma.
White, E. W., Castle Rock.
Whitney, C. E., Sumner.
Whittaker, F. J., Republic.
Wickman, F. W., Tenino.
Wick, W. W., Sumner.
Wilcox, C. C., Vancouver.
Willard, H. G., Tacoma.
Wilson, C. E., Seattle.
Wilson, C. S., Tacoma.
Wilt, F. T., Steilacoom.
Wood, C. B., Seattle.
Wood, F. L., Linden.
Wood, N. P., Seattle.
Yocom, J. R., Tacoma.

U. S. Naval Reserve Corps.

Baldwin, T. C., Port Orchard.
Blair, H. C., Tacoma.
Brugman, J. C., Ewald.
Clancy, F. J., Seattle.
Clerf, L. K., Ellensburg
Coe, H. E., Seattle.
Cole, T. O., Spokane.
Darby, J. J., Pomeroy.
Dawson, J. T., Seattle.
Dowling, G. A., Seattle.
Dowling, J. T., Seattle.
Elmore, Bruce, Seattle.
Gross, E. C., Seattle.
Henry, J. E., Tacoma.
Hooker, S. V. R., Seattle.
Hubbard, F. L., Spokane.
LaMott, H., Manette.
Lea, J. M., Big Lake.
Lieser, Ralph, Vancouver.
Maxson, F. T., Seattle.
McBride, J. S., Seattle.
McCurdy, R. J., Seattle.
Murphy, T. B. N., Oaksdale.
Nickson, D. H., Seattle.
Parry, I. A., Seattle.
Richardson, Waldo, Seattle.
Shiley, J. R., Seattle.
Smalley, R. B., Seattle.
Sturgis, M. G., Seattle.
Swart, D. S., Woodland.
Thomson, C. H., Seattle
Tinney, C. M., Bremerton.

With Allies in Europe.

Audic, J. M., Spokane.
Eikenbary, C. F., Spokane.
Ewing, G. H., Vashon.
Frost, W. S., Spokane.
Graves, J. C., Spokane.
Hemmeon, J. A. M., Seattle.
Ireland, G. O., Tacoma.
Jento, C. P., Seattle.
Kirkpatrick, W. D., Bellingham.
Locke, J. A., Index.
Manning, J. B., Seattle.
McChesney, D. H., Seattle.
McKee, J. A., Seattle.
Murray, D. A., Seattle.
Neff, J. M., Spokane.
Reid, Peter, Spokane.
Runte, Janet, E., Seattle.
Scott, W. R., Centralia.
Seagrave, Mabel, Seattle.
Stockwell, H. K., Monroe.
Thomson, James, Seattle.
Turner, W. K., Seattle.
Wallace, W. S., Spokane.

IDAHO.

Medical Reserve Corps, U. S. A.

Alexander, D. L., Twin Falls.
Anderson, C. M., Nez Perce.
Arntzen, J. L., Paris.
Aspray, Joseph, Moscow.
Barrows, F. L., Moscow
Bartlett, J. C., Bruneau.
Bland, Curtis, Preston.
Braddock, E. G., Lewiston.
Brothers, W. W., Malad City.
Bryan, C. H., Kamiah.
Byrd, A. G., Bellevue.
Callard, C. B., Placerville.
Carithers, W. H., Moscow.
Castle, L. F., Pocatello.
Clark, B. O., Emmett.
Cole, F. L., Rigby.
Cole, F. M., Caldwell.
Conant, C. C., Weiser.
Cooper, George, Burley.
Coughlin, J. F., Twin Falls.
Cromwell, J. H., Gooding.
Crouch, J. E., Payette.
Didier, F. W., Harrison.
Dimon, John, Elk River
Dwyer, J. C., Coeur d'Alene.
Eames, Earl, Minan.
Falk, Ralph, Boise.
Fairly, J. M., Orofino.
Fawcett, S. F., Bonners Ferry.
Fitz, G. G., Richfield.
Gritman, C. L., Moscow.
Hamilton, W. R., Weiser.
Harris, F. T., Lewiston.
Henning, O. F., Jerome.
Higgs, D. P., Fairfield.
Hopper, Simon, Cambridge.
Howard, W. F., Pocatello.
Hoyt, J. E., Kendrick.
Hull, A. R., Nampa.
Ihde, D. E., Lewiston.
Ingram, J. W., Priest River.
Kackley, Soda Springs
Kerns, J. M., Malad City.
Kleinman, E. W., Hailey
Kneeshaw, R. S., St. Maries.
Laubaugh, E. E., Boise.
Laughbaum, Ray, Juliaetta.
Leigh, C. A., Twin Falls
Logan, V. G., Rockland.
Louis, J. D., St. Anthony
Macrae, R. D., St. Mary's.
Martin, C. J., Driggs.
Mason, R. E., Mackay.
Maxey, E. E., Boise.
McCall, J. M., Troy.
McDill, W. F., McCammon.
McMahan, W. F., Kamiah.
Miller, J. F., Inkom.
Mitchell, F. W., Blackfoot.
Moody, C. S., Hope.
Moore, C. O., Paris.
Mowery, C. R., Wallace.
Mowery, Herbert, Wallace.
Newton, A. M., Pocatello.
Numbers, D. S., Parma.
Page, O. F., Sandpoint.
Patrie, W. E., Blackfoot.
Perkins, L. J., Lewiston
Piper, E. D., Jerome.
Pittenger, F. A., Boise.
Platt, O. D., St. Mary's.
Poole, F. H., Pocatello.
Potter, W. H., Kootenai.
Poynter, D'Orr, Montpelier.
Prichard, J. R., Post Falls.
Quick, R. W., Weston.
Quigley, F. L., Wallace.
Railston, B. O., Rathdrum.
Randall, G. B., Buhl.
Richard, F. P., Pocatello.
Rogers, E. B., Winchester.
Schwarz, T. E., Twin Falls.
Shurtz, R. L., Boise.
Slusser, C. W., Grangeville.
Smith, C. T., Pocatello.
Sprague, C. H., Pocatello.
Sprague, F. M., Pocatello.
Tallman, M. H., Boise.

Tukey, W. H., Boise.
Titus, W. S., Boise.
Watson, C. E., Nampa.
Weatherbell, Charles, Twin Falls.
White, E. L., Lewiston.
White, J. E., Twin Falls.
Whiteman, R. T. Council.
Wiik, J. C., Moscow.
Williams, C. W., LaClede.
Wright, Crispen, Fruitland.
Young, J. R., Pocatello.

U. S. Naval Reserve Corps.

Cluen, R. J., Boise.

UTAH.

Medical Reserve Corps, U. S. A.

Adams, H. G., Ogden.
Alexander, R. J., Salt Lake City.
Allen, D. K., Salt Lake City.
Ashley, R. W., Salt Lake City.
Baldwin, S. C., Salt Lake City.
Bartlett, F. K., Ogden.
Beal, D. O., Ephraim.
Beer, Sr., W. F., Salt Lake City.
Benedict, C. M., Salt Lake City.
Bird, A. A., Magna.
Black, B. W., Salt Lake City.
Brain, C. E., Salt Lake City.
Brown, W. R., Ogden.
Browning, W. J., Roosevelt.
Chamberlain, E. F., Price.
Christopherson, Willard Salt Lake City.
Clark, F. G., Ogden.
Clarke, G. W., Springville.
Cloward, R. E., Price.
Cook, J. O., Sunnyside.
Critchlow, M. M., Salt Lake City.
Crismon, K. A., Salt Lake City.
Cruikshank, G. H., Vernal.
Curtis, F. J., Salt Lake City.
Dannenberg, B. A., Hober.
Davis, G. Von Pultinger, Salt Lake City.
Davis, G. F., Ogden.
Day, J. E., Garland.
Dumke, E. R., Ogden.
Dunn, Frederick, Springville.
Emery, G. C., Holliday.
Evans, J. O., Salt Lake City.
Ewing, W. B., Salt Lake City.
Field, G. J., Salt Lake City.
Fisher, R. W., Salt Lake City.
Flood, T. A., Salt Lake City.
Galligan, J. J., Salt Lake City.
Gardner, C. S., Kaysville.
Giesy, J. U., Salt Lake City.
Goeltz, F. A., Salt Lake City.
Graham, J. M., Fruita.
Green, G. W., Vernal.
Hampton, R. R., Salt Lake City.
Hanks, G. W., Lehi.
Heath, C. J., Marysvale.
Henneberger, C. E., Bingham Canyon.
Hoffman, C. E., Provo.
Humphrey, I. K., Salt Lake City.
Ingbretsen, P., Ogden.
Irvine, A. R., Salt Lake City.
Jansen, F. I., Salt Lake City.
Jellison, R. T., Salt Lake City.
Jorgenson, H. C., Salt Lake City.
Kanzler, Reinhold, Ogden.
Knott, A. D., Murray.
Marshall, H. L., Salt Lake City.
Mayo, H. N., Salt Lake City.
Mayo, W. B., Salt Lake City.
McBride, G. E., Magna.
McCune, R. A., Ogden.
Merrill, R. T., Smithfield.
Murphy, A. J., Salt Lake City.
Nyvall, C. A., Salt Lake City.
Pace, G. H., Salt Lake City.
Peck, J. H., Ibapah.
Potter, L. C., Provo.
Preston, W. B., Salt Lake City.
Pugmire, L. R., Ogden.
Pugh, W. N., Salt Lake City.
Rich, L. F., Ogden.
Rich, H. E., Vernal.
Richards, H. Y., Salt Lake City.
Roberts, G. F., Salt Lake City.
Rush, W. A., Logan.
Sandberg, C. L., Salt Lake City.
Scott, H. S., Salt Lake City.
Sharp, J. F., Salt Lake City.
Spangler, H. B., Murray.
Sprague, H. B., Salt Lake City.
Stevenson, T. W., Salt Lake City.
Stewart, L. D., Payson.
Stigall, C. G., Salt Lake City.
Taylor, F. W., Provo.
Tyng, F. E., Salt Lake City.
Tyree, J. E., Salt Lake City.
Van Scoyoe, Guy, Salt Lake City.
Wardleigh, C. E., Ogden
Whalen, W. E., Ogden.
Wickert, H. T., Huntsville.
Woolsey, R. T., Salt Lake City.
Wright, E. S., Salt Lake City.

U. S. Naval Reserve Corps.

Odell, T. G., Lark.

BOOK REVIEWS

The Wassermann Test. By Charles F. Craig, A. M., M. D., Lieut. Col., Medical Corps, U. S. A., etc. 239 pp. Illustrated. C. V. Mosby Co., St. Louis, 1918.

The work is largely a digest of the author's personal investigation and drawn from serologic work during his past ten years in the army service. The history and bio-chemistry of the test and author's personal technic are all well given. The technic and readings are at a variance with many laboratories because of having to be adapted to army conditions. Most valuable information is given relative to the fluctuations of the test under different conditions, such as with and without treatment, the influence of the patient taking alcohol, contamination of the specimen, the question of when cured and the like. Craig conclusively shows by case records that a single negative in a known syphilitic is valueless. The reaction with different antigens and specificity of the test are together given an entire chapter. Another chapter is devoted to the prevalence of syphilis in different communities, as shown by army recruits coming from there and subjected to a Wassermann test. The different tests of the spinal fluid are given in detail. The work is good and authoritive because of being almost entirely a report of the author's personal work, not a compilation of others. For the same reason it is a little incomplete. JONES.

Headaches and Eye Disorders of Nasal Origin. By Greenfield Sluder, M. D., Chemical Professor and Director of the Department of Laryngology and Rhinology, Washington University Medical School, St. Louis. 272 pp. With 115 Illustrations. C. V. Mosby Company, St. Louis, 1918.

Most cases of recurrent headaches that the ophthalmologist sees are due to eye strain, those of the internist to toxemias, those of the syphilographer to syphilis and quite a proportion of those of the neurologist to simple nerve strain. A certain class of headaches, even those produced by the use of the eyes, are ascribed to disease of the sphenoidal or ethmoidal sinuses and are only to be relieved by giving free drainage and ventilation by treatment or operation.

Sluder and his colaborator, John Wright, illustrate very well the involvement of the superior accessory sinuses by pathologic processes and their effect upon the production of the nerve pain which we call headache. The author does not deal with the suppurative sinus directly. He considers the three varieties of nasal disease, which have as symptoms headache and more or less eye disorder to be, first, closure of the frontal sinus without suppuration i. e., a vacuum frontal headache; second, nasal ganglion neurosis, i. e., that of the sphenopalatine or Meckel's ganglion which, while it lies deep in the sphenomaxillary fossa or close to the sphenopalatine foramen, is not always deep in the bone, but may be so close to the nasal membranes or paranasal cells as to be implicated by nasal inflammation, enlargement of the cavernous tissue, osteitis or enlargement of the bony structures or pressure from malformations; third, hyperplastic sphenoiditis.

As to treatment it is astonishing to see what may be accomplished by the simple application of astringents, 2 per cent. nitrate of silver, 5 per cent. carbolic acid in alcohol over the region of the outlet of the sinuses and over the region of the nasal ganglion and the vidian nerve. He goes on in detail in the various chapters to point out the explanation of the relation of nasal to optic disorders which, as a rule, is a hyperplastic bone process, the mode of operation being the narrowing of the bone canals thru which the respective nerves pass, i. e., the optic canal with the optic nerve, the foramen rotundum transmitting the maxillary and the vidian nerves. Sixty-seven pages are given up to case histories, apparently showing the relation of the nasal structure to the eye and to headache or the symptoms connected therewith. The book is well printed and illustrated and is of decided value to the ophthalmologist as well as to the rhinologist.

WURDEMANN.

Amputation Stumps. Their Care and After Treatment. By C. Martin Huggins, F. R. C. S., Medical Officer to the Government Schools, Salisbury, Rhodesia, etc. 228 pp. $2.75. Oxford University Press, London and New York, 1918.

The author's wide experience in the care and after treatment of thousands of amputation cases in the base hospitals in England has been well set forth in this little book. About one hundred illustrations of stumps good and bad and artificial limbs well-fitting and otherwise explain the text admirably. There is a fund of information here that can be gotten nowhere else for anyone interested in this branch of surgery, military or civilian.

FORBES.

Bipp Treatment of War Wounds. By Rutherford Morrison, Professor of Surgery, Durham University, etc. 72 pp. $1.00. Oxford University Press, London and New York, 1918.

The treatment of war wounds by bismuth-iodoform paste has now an assured place among those antiseptic methods, the employment of which during this past three years has become almost universal. That there is no better method is the bald statement of the author. His results are convincing and the simplicity of his technic makes the treatment attractive. There is practically no form of infected wound where it cannot be used, those involving the meninges and joints not excepted. Compound fractures are treated as simple ones after a thoro cleaning operation with smearing of the paste and closure.

FORBES.

Principles and Practice of Infant Feeding. By Julius H. Hess, M. D., Major M. R. C., U. S. A., Professor of Pediatrics, University of Illinois, College of Medicine, etc. 338 pp. Illustrated, $2. F. A. Davis Co., Philadelphia and New York, 1918.

This book is a distinct addition to the literature on this subject. Dr. Hess is one of the real leaders in the pediatric world, a practical physician and successful teacher. The book is full of help for the student and practitioner. The chapters on material and wet nursing cut out much of the misinformation which has been handed down thru generations of our textbooks and give briefly and clearly all essential points. His directions for artificial feeding are put in a simple, concrete form which any one may follow. There is a brief discussion of the nutritional disturbances and a valuable appendix with analyses of all the commonly used proprietary foods, receipts and formulae for all the ordinary food preparations used in infant feeding. There are tables as to average measurements of the child, time of eruption of the teeth, closure of fontanels, blood changes. There are discussions of clothing, baths, packs, irrigations, gavage, food in traveling and many other subjects connected with development and care of the baby. No other work on the subject contains so much of value and so little non-essential material.

DURAND.

A Text-Book of Obstetrics. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. Eighth edition, revised and reset. Octavo of 863 pages, with 715 illustrations, 38 of them in colors. Philadelphia and London: W. B. Saunders Company, 1918. Cloth, $5.00 net.

The author states he has made an effort to condense the text of this 8th edition, but 863 pages have been found necessary to contain the needed information on the great subject of obstetrics. The work is divided into six parts. Part one presents a fund of information on physiology, diagnosis and management of pregnancy. In part two labor and the puerperal state are thoroly described, followed

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by part three, dealing with the mechanism of labor. A large portion of the work in part four deals with the pathology of pregnancy, labor and the puerperium. Diseases of all parts of the genital tract are discussed at considerable length. Obstetric operations follow in part five, the work being completed with the consideration of the new-born infant. The book is extensively illustrated, which adds greatly to the comprehension of the text. The obstetrician will find much of value in this volume.

SMITH.

The Prevention of Venereal Diseases. By Otto May, M. A., M. D., M. R. C. P. Late Hon. Secretary, National Council for Combating Venereal Diseases. 240 pp. Oxford University Press, London and New York, 1918.

The author was formerly Hon. Secretary, National Council for Combating Venereal Diseases, which position he resigned because of both the Royal Commission and National Council not recommending personal preventatives as a part of their program. Accordingly he uses the book to give voice to his personal ideas. He thinks soldiers should not be merely given the opportunity of taking prophylactic treatments after exposure, but required to do so. Results obtained in the U. S. Navy are given to substantiate the protection thus given. He divides preventative work into educating the individual to avoiding exposure, segregation of infected individuals in hospitals and personal preventatives to be used before and after exposure. The recent English system of caring for all venereal patients in special public clinics and a complete list of these clinics is also given. The Venereal Disease Act, of 1917, and the New Zealand Social Hygiene Act, of 1917, are both given as on the statutes. It is an English book, dealing with English not United States conditions. JONES.

The Seriousness of Venereal Diseases. By Srapgue Carleton, M. D., F. A. C. S. 67 pp. Illustrated. Price $0.50. Paul Hoeber, New York, 1918.

This is a small pocket size book, published for distribution among the men of Base Hospital No. 48. It consists of excellent pictures with their explanations and some rules for venereal patients. The subject matter is such as is used to frighten men relative to the dangers of venereal infections. It will serve that purpose and give a little information as well. JONES.

The Composition of Certain Patent and Proprietary Medicines. Compiled by John Phillips Street, Major, Sanitary Corps, N. A., late Chemist in charge of Analytical Laboratory, Connecticut Agricultural Experiment Station. 274 pages; more than 2500 remedies; over 3100 analyses. Cloth, $1.25 postpaid. American Medical Association, Chicago.

The reason for publishing this work is that $150,000,000 is spent annually in the United States for patent and proprietary medicines. The author here presents the formulae and composition of 2800 brands of remedies out of the 40,000 advertised and sold in this country. They comprise medicines and preparations of the most varied nature, claiming to cure all real and imaginary diseases. They are arranged alphabetically and present a fund of interesting information, of value to the laity and physicians. SMITH.

The Treatment of Cavernous and Plexiform Angiomata by the Injection of Boiling Water. (Wyeth Method). By Francis Reder, M. D., F. A. C. S., Visiting Surgeon to City Hospital, St. Louis, etc. 75 pp. Illustrated. $1.50. C. V. Mosby Co., St. Louis, 1918.

This brochure is a reprint of the author's original article which appeared in **Surgery, Gynecology and Obstetrics** three years ago. The monograph is produced in this form on account of the special interest aroused by a method of treatment, whereby vascular tumors of all sizes are removed without the scalpel and hence without a scar. The technic is fully described and the results are well shown by numerous photographs and illustrations.

FORBES.

A Manual of Otology. By Gorham Bacon, A. B., M. D., F. A. C. S. Formerly Professor of Otology in College of Physicians and Surgeons, Columbia University, etc. Assisted by Truman Laurance Saunders, A. B., M. D., Assistant Professor of Laryngology and Otology, Col. of Phys. and Surgs., Columbia University. Seventh Edition, Revised and Enlarged. 583 pp. with 204 Illustrations and 2 Plates. $3.00. Lea & Febiger, New York and Philadelphia, 1918.

This last edition of a well known manual of otology comes at an exceptionally appropriate time, for the author has incorporated in it much new work on the labyrinth and has given the ear test required for the aviation services. The rest of the book shows evidence of having been carefully rewritten and much new matter included, bringing it fully up to date. While the work is complete even for the specialist, it is especially useful to the general practitioner as treatment is given in great detail. STUBBS.

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ORIGINAL CONTRIBUTIONS

PARTIAL OR INCOMPLETE INTUSSUSCEPTION AS AN ETIOLOGIC FACTOR IN UNTOWARD POSTOPERATIVE SEQUELAE FOLLOWING APPENDECTOMY.*

By Harry A. Shaw, M. D.
SEATTLE, WASH.

In order to intelligently review the subject of intussusception and establish a basis for the hypothesis that partial or incomplete intussusception interfering with the normal mechanics of the ileocecal region could possibly account for many of the untoward symptoms, so often following appendectomy, I will take the liberty to briefly refresh your memory upon certain physiologic, pathologic, and anatomic facts pertaining to the colon, particularly the ileocecal region. It will be necessary to dwell somewhat upon the subject of intestinal stasis, to better comprehend the etiology and symptomatology of certain untoward postoperative symptoms mentioned later.

The functions of the colon are elimination, storage and absorption. The importance of the eliminative function has been emphasized of late in connection with the subject of toxemia, but for many years it has been proved experimentally that many substances, for instance metallic salts, diphtheria toxins, etc., are partially eliminated by the colonic mucosa. As to its storage function, it acts as a receptacle, wherein the food is detained while the enzymes from the upper digestive tract are still active. It is estimated that 7 per cent. of all digestion occurs here. The cecum by some authorities has been likened to a second stomach. Its absorptive capacity seems to be a wise provision on the part of nature for recovery and utilization of practically all of the fluid, and to a less degree the solid products that have escaped the upper digestive tract. This is much more active in the first one-half or that part which embryologically originated from the terminal portion of the midgut.

It is also in this first portion of the large gut that antistalsis is a constant physiologic factor, seemingly appearing as an effort on the part of nature to knead over and express from the mass of waste material all of that which is utilizable in the region where absorption is the greatest. As stated before, this antistaltic function is also normally limited to about the first one-half of the large bowel as proven by the x-ray and accepted by modern physiologists.

This is just another exemplification of the intimate relation between function and embryonal origin. This antistaltic wave probably accounts for the early appearance of barium or other enemata in the cecum. While absorption is an active factor in the large bowel, it is not so intense as in the small gut on account of the inferiority of the supply of absorbent vessels (Taylor). In this arrangement you can see the wise provision of nature in diminishing absorptive power in proportion to the increasingly septic nature of the gut content. This fact readily explains why ileal stasis (the commonest variety) is much more productive of that clinical syndrome known as intestinal toxemia, which has filled the literature of the last few years, proteid decomposition and absorption accounting for everything from acne to old age. No doubt, like focal infections, this has been the excuse for a vast amount of worse than useless surgery but, on the other hand, it has opened a distinct and a wonderful field of medical and surgical therapy. Out of all the mass of facts accumulated on this subject, there has risen a common ground and an absolute knowledge that minor lesions which interfere with the normal mechanism or drainage of the gastrointestinal canal are usually of serious import, far more so, as a rule, than the most intensely altered secretory functions.

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*Read before the King County Medical Society, Seattle, Wash., June 17, 1918.

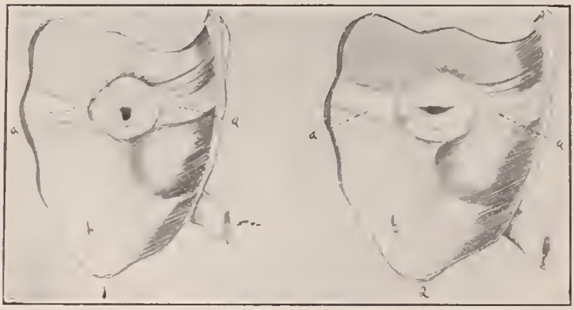

Fig. 1. 1aa, the frenum, tension of which produces a closure of the opening. 2. This is the annular type, in which certain anatomists claim a true sphincteric action.

Probably one of the most important and interesting but least understood structures in vertebrate anatomy is the ileocecal valve. This valve is absolutely constant in all of the higher vertebrates and in many species is a much more developed structure than in man. It seems to act as an essential barrier between the large and small gut and is impervious to the passage of either solid or liquids from the cecum into the ileum under normal conditions. Numerous theories have been advanced as to the manner in which this valve acts and the physiologic purpose for which it is placed. The majority of writers claim that its chief function is to prevent a reflux of the septic cecal contents into the ileum, while a very few hold to the converse that it is to prevent the unduly rapid passage of ileal contents into the cecum.

As to modus operandi of its valvular action, nearly all authorities agree that the two lips are closed by intracolic pressure producing tension upon the frenulum. (Note fig. 1:1 aa.) Some, however, claim a true sphincteric action, reflex in nature due to the so-called Auerbach's collar which is nothing more than an increased amount of muscular fibers highly enervated by Auerbach's plexus and acting in a similar way to the pylorus, relaxing synchronously with ileal peristalis. (Note fig. 1:2. Also fig. 2:1). Cunningham and others call to attention the fact that the obliquity of the junction of ileum with cecum may assist in a similar way that the ureter is acted upon by intracystic pressure. (Note fig. 2:1).

Reverting back to the subject of ileal stasis and intestinal toxemia, which is so intimately and inseparably connected with the ileocecal region, it is interesting to note the divergent opinions as to its etiology. In a general way, they could be divided into two groups. One group, headed by Kellogg and Case, claim that incompetency of the ileocecal valve allows the toxic large bowel contents to regurgitate during antistalsis into the ileum, thereby greatly retarding its total foreward movement, as well as promoting toxic absorption. They class it as a stretched-out condition, probably due to distention or in rare cases injury of the valve from disease, more especially tuberculosis. Kellogg cites many cases in which he has cured this condition by operative procedure, by restoring the natural intussusception at times totally ignoring so-called Lane's kink. He warns, however, that "dangerous results may follow the overcorrection in this form of obstruction." *This is strictly in keeping with the suggestion I wish to convey as to the potential evils resulting from interference with the normal mechanics of the ileocecal valve, due to faulty technic in appendectomy, a deadly parallel to the warning of Kellogg.*

Before presenting my brief case report with conclusions, I am going to further encroach upon your time to hastily review the subject of intussusception.

Clinically intussusception may be divided into acute and chronic. *Anatomically* it is divided as follows:

First, ileocecal. This is by far the commonest type and consists of about 60 per cent. of all cases. In this type the apex of the intussusception

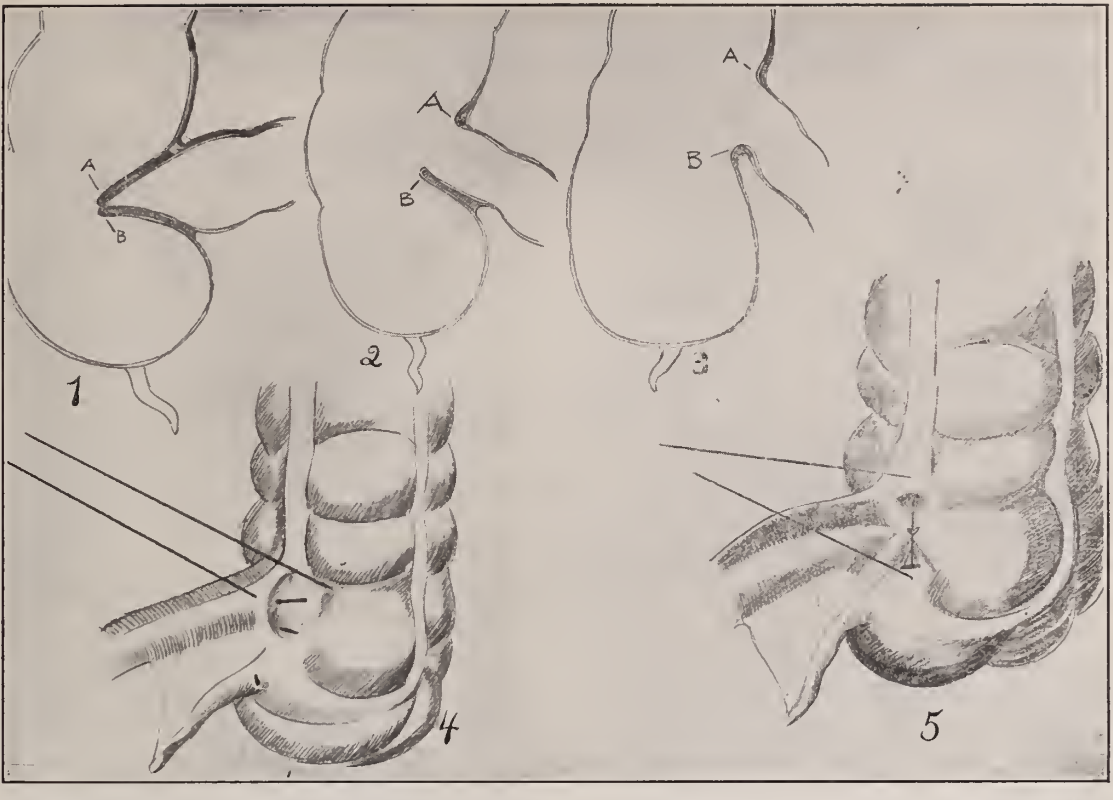

Fig. 2. 1, schematic section of normal ileocecal valve; A, upper lip; B, lower lip. Note how this normal intussusception produces a duplication of the circular muscularis of the large and small bowel in close contact. It is in the duplicated area we find the so-called Auerbach's collar. 2, partially incompetent valve. 3, markedly incompetent valve. 4 and 5 illustrate steps in Kellogg's operation. (2, 3, 4, 5 after Kellogg.)

is the ileocecal valve which passes upward into the large bowel.

Second in frequency is the enteric form, where you have a prolapse of small gut into small gut.

Third is the colic variety, forming about 14 per cent. of all cases. In this type we have large gut into large gut. (This is the form so often associated with new growths and is generally small in size.)

Fourth the ileocolic. This is the rarest of all forms. Here the small gut invaginates thru the ileocecal valve into the large gut, the intussusception growing at the expense of the inner layer (the ileum), just opposite to the usual rule.

There are a number of anomalous types, such as appendicular, cecal, those due to diverticula, etc. These, however, are the very rare forms and for our purpose, outside of the mere mention of the same would simply confuse the issue.

Pathology. This is very simple and consists in that series of changes which occur following gradual compression and final strangulation of the mesentery between the two layers, producing edema and venous congestion, resulting in bleeding into the bowel lumen and often terminating in arterial constriction with consequent gangrene of the invaginated part. In chronic cases secondary changes occur such as ulcerations, inflammations and new growths, due to constant irritation of the devitilized structures.

Etiology. There have been a number of etiologic factors proposed. The chief, and the one almost universally accepted as the predisposing factor, is the fact that peristalsis and antistalsis are normal and constantly occurring phenomena in the same gut segment, causing a wave from two directions which meet at the point wherein the intussusception occurs. This phenomenon is especially true at the ileocecal junction. It is in the cecum that antistalsis first occurs as a constant and prominent physiologic condition. *When we realize the great disparity between the caliber of the ileum and that of the cecum and remember that the ileocecal valve is normally an intrusion of ileum into cecum, we can readily see how little assistance it would take at this strategic point to complete what nature starts.* (Note fig. 2:1). A bolus of undigested food or milk curd, a mass of intestinal worms could readily excite powerful peristalsis, forcing this immovable, impacted mass, gut and all into the distal segment. This is the same mechanical phenomenon that is exhibited in the presence of intestinal tumors, i. e., violent peristaltic efforts to pass the tumor along, which in turn drags the gut with it. (Many cases have been demonstrated to have a tumor or food bolus at the apex of the intussusception.)

In a similar way stenosis either benign or malignant may cause a food impaction and act as entering point of the wedge. This seems to be a not uncommon occurrence in annular carcinoma. Cecum mobile is associated with the vast majority of the ileocecal variety and nearly all types have an especially redundant mesentery.

Acute and chronic appendicitis has been given as a cause. A. Groves, in the Sept. 17, *Canada Lancet,* cites five consecutive cases in infants with an inflamed appendix in each case, two of them serious inflammation. He reasons that the inflamed appendix causes spasmodic narrowing of the proximal portions of the bowel.

Diagnosis. For the sake of brevity and simplicity I will give a brief resume of the diagnosis and symptoms of, first, the acute, and, second, the chronic type.

Acute type. It is more common in males, occurring in the proportion of 2 to 1. Onset very sudden. Child may go in few hours from the picture of health to that of extreme shock. Unlike the acute bowel complaints of children, it is more common in cool than in hot weather. Usually in children under one year and those who have been previously healthy. Acute colicky pain (associated with visible peristalsis sometimes called patterns) and abdominal distension. Vomiting at onset.

Obstruction is early and complete as a usual rule. Usually after few hours stools consist of bloody mucus. In connection with the acute type I would say that it is more often mistaken for mucous colitis than any other condition. Large percentage of cases reveal a sausage-shaped tumor with curve toward the umbilicus. (Often only revealed by rectal examination.) Tumor becomes more prominent during paroxysms.

White cell count normal or only slightly increased. Horizontal fluoroscopy visualizing the barium enema as injected will clear up the diagnosis if a doubt remains. (Always wash out barium by gentle colonic flushings before operation.)

Chronic type. This is the usual type found in adults. Absolute obstruction is a late symptom. Starts with a chronic and increasingly obstinate constipation with a gradual development of tenesmus with mucus and blood. Exceptionally there are intervals of complete freedom of symptoms. Vomiting is rare at the beginning and only develops in proportion to the obstruction. There is very little abdominal tenderness; if any, it is over tumor mass. (This coupled with increased white cell count are the most valuable points in ruling out acute inflammatory lesions.)

Visible peristalsis. Possible palpable tumor, (60 per cent. of cases only, not as frequent as in acute type in children.)

Rapidly increasing aversion to food (Patients will deliberately starve rather than precipitate the pain and vomiting sure to follow the intake of food.) Just the reverse to the acute. Often the early stages are more like a dyspeptic syndrome with obstructive symptoms later.

White cell count is normal or only slightly increased. (This is not true where there is secondary inflammatory changes). The urine is usually loaded with indican.

In early stages bismuth meal with picture and fluoroscopy, plus a barium enema and fluoroscopy and in later stages where the bismuth meal will not be tolerated a simple barium enema with fluoroscopy is often diagnostic.

Treatment. There are two methods, i. e., inflation with air or fluids, and surgical.

I mention inflation to strongly condemn it as not only ineffective, but a dangerous procedure and more especially so if coupled with catharsis. It is dangerous from two angles, first, the element of delay and, second, the actual danger of rupture of the devitalized and possibly gangrenous gut.

In reference to delay in acute type, perhaps in the whole realm of abdominal surgery, not even excepting perforated ulcers, are the appalling evils of procrastination better exemplified. There is not only a difference of 200 per cent. in the operative mortality between those operated on before and after the twenty-four hour period, but the fact also that 94 per cent. are reducible by simple intra-abdominal manual procedure within the first twenty-four hours and 60 per cent. are irreducible after the third day. Eve collected twenty-four cases from records of the London Hospital which were treated by insuflation or injection, six died and the remaining eighteen required operation, making 100 per cent. failure.

It occurs to me, after a fairly careful persual of all of the locally available literature, that all the articles recommending inflation are either very ancient or from the pen of some unknown man, backed by limited experience in unheard of institutions, and sound even more fishy than the so-called medical treatment of gallstones, acute appendicitis, cancer, etc.

Surgical Treatment. This may be divided into palliative and curative, depending largely upon the condition of the patient and the pathology encountered. As the vast majority of these cases occur in young children, great speed is absolutely essential and it is well to remember in this connection that, regardless of the operative procedure followed, the great percentage of the cases under one year of age die, if the intussusception is not reducible.

Palliative Measures are only adopted as a court of last resort, where the condition of the patient absolutely prohibits the radical procedure. The danger of palliative procedure is the possible gangrenous slough of the involved bowel and the added difficulties and dangers encountered at the secondary operation. If palliative measures are decided upon, I believe the simple method of Elliot is best, i. e., a stab wound in the gut near the apex of the intussusceptum, with the introduction of a soft catheter thru the intussusceptum into the open lumen of the distal segment and attachment of the gut to belly wall, as in cecostomy. (Note fig. 3). This provides an artificial anus proximal to the obstruction and he claims that it prevents the further increase of the intussusception. This procedure certainly would produce little shock, far less than an artificial anus of the usual type, and give immediate drainage, and I believe is worthy of storing away in the memory to meet the emergency should such occur. It stands to reason if you already have a gangrenous gut, enterostomy or resection is imperative.

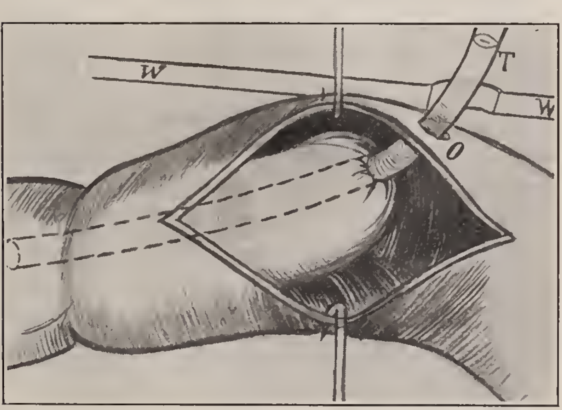

Fig. 3. Elliot's operation (Binnie). Self explanatory.

Radical Cure. There are numerous ingenious operative procedures, far too many to attempt to call to your attention in the short space of time allotted for this paper. I will confine myself to three universally accepted operations that seem to me to adequately cover the field.

(1) Simple reduction. This should never be accomplished by the application of any great force and never by traction, but more by gentle pressure, gradually attempting to unroll the ensheathing layer. (Note fig. 4). When possible pack off well from the surrounding field, as even the most gentle manipulation may produce a sudden rupture. Where the mesentery is unduly long, it should be shortened by infolding stitches and if (as is so often the case) cecum mobile is present, do a cecopexy.

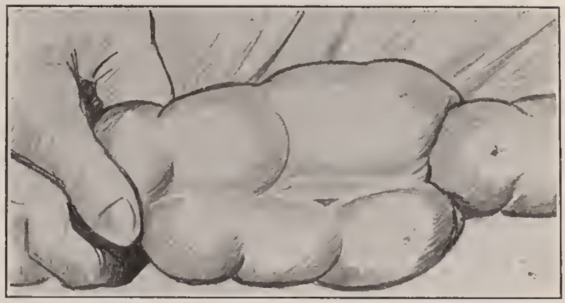

Fig. 4. Proper technic in reduction of intussusception according to Moynihan.

(2) Where reduction is not possible and the vitality of the gut insures against gangrene, Jesset's operation is the one of election. (Note fig. 5: 1, 2, 3, 4). It is well here to keep ever in mind the extreme septic nature of the bowel contents in obstruction cases.

(3) Where reduction is or is not possible and where the future vitality of the bowel is questionable, resection with end to end, end to side, or side to side anastomosis according to location is indicated. Personally I prefer the basting stitch method, using the cautery knife.

My chief object in reporting this case and reviewing this subject is to obtain some expression from the members of the society as to the possibility that some of the untoward symptoms following appendectomy, the so-called dyspeptic syndrome coupled with chronic constipation, pain in the right iliac fossa, gas, etc., or symptoms so often attributed to ileal stasis due to postoperative adhesions, often persisting after secondary operations, might not possibly be due to partial intussusception, interfering with the mechanics of the ileocecal region, more especially the valve, and in a similar manner to chronic appendicitis with adhesions producing reflex pylorospasm, obstipation and distress. I frankly acknowledge that my case of marked intussusception may be a mere coincidence and yet to me it offered food for thought. I am asking you to keep this in mind where you have the abdomen opened for any purpose whatsoever, where there has been a previous appendectomy and to view carefully the ileocecal junction, and note if there is any *abnormal intrusion of ileum into cecum, or any angular deformity that could by traction, torsion or otherwise interfere with valvular function.*

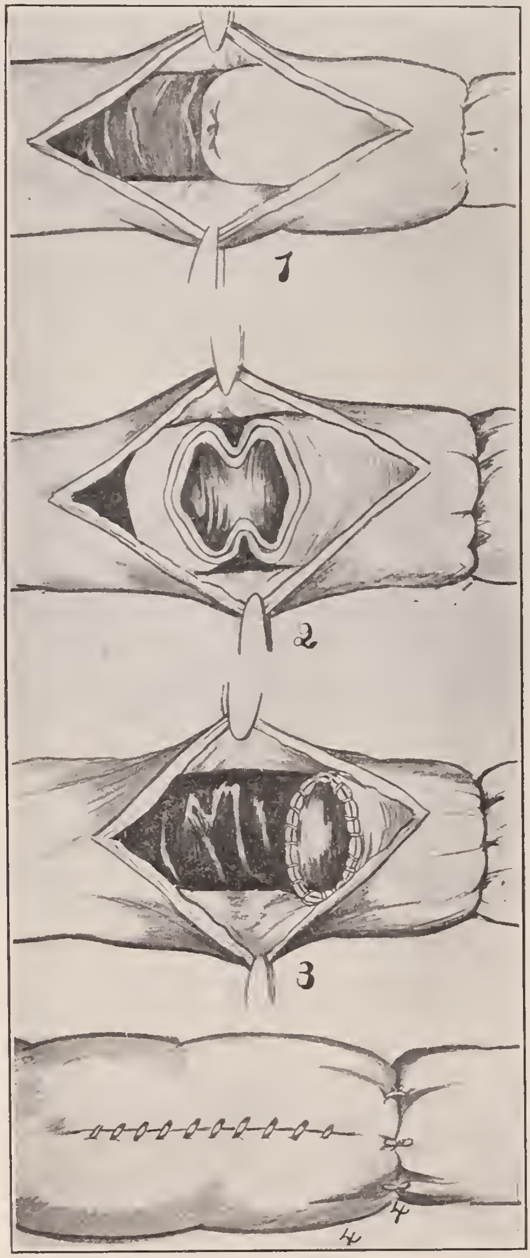

Fig. 5. Various steps in Jesset's operation (Binnie). Self explanatory.

Keeping constantly in mind the vital physiologic importance of this portal between large and small bowel, as far back as 1900 Wm. Mayo cited two successful cases in which he did a modified Heineke-Mikulicz for relief of obstruction at the junction, and during the course of several subsequent articles has called attention to this possibility. To quote from him, "I believe there are certain cases in which an organic or functional narrowing of the ileocecal opening is responsible for a chain of symptoms, in which pain in the ileocecal region without marked disease of the appendix and chronic constipation are important symptoms."

I also call to your attention the circumstances that first impelled Lane to preform ileocolostomy. I can do no better than to quote him. "In my earliest cases after the appendix had been removed and the cecum and flexures freed from adhesions, I looked around for some means to relieve the patients of the cecal pain from which they suffered, and for which they were willing to submit to any operation. Pain was the chief symptom of which they complained." Mayo made mention of this condition as primary, not postoperative, altho on one case he had previously performed an appendectomy. Lane seems to ignore the valve and advocates the more or less dangerous ileocolostomy with or without colectomy.

It seems to me, in the light of our present knowledge of this region and its fine anatomic arrangement, that *marked derangement of function could easily occur, caused by lesions seemingly trivial and easily overlooked.*

Personally I lay no claims to any experience that would justify me in making any suggestions as to surgical procedure for the correction of this condition. I simply wish to impress upon your mind the reasonable possibilities of such surgical accidents. What I wish to suggest is "the ounce of prevention," not the "pound of cure," and to solicit your cooperation in operative and postoperative observation as well as your critical discussion. The extreme frequency of appendectomy, coupled with a very low mortality, has possibly made us just a trifle careless with our technic.

For many years the cecum has been looked upon as the vestigial remnant of a once useful structure, and the ileocecal valve as an organ of minor importance and we gave scant consideration to their anatomic integrity in operative procedures in this region, often utilizing anatomic folds and producing marked distortion and structural alteration for the sake of peritonealization. Pain in the right lower quadrant, coupled with a dyspeptic syndrome and in the absence of other finding, spelt appendicitis, when operation would often reveal a normal appendix with a rapid recurrence of previous symptoms upon the return to a full diet and resumption of usual activities. This I cannot help but believe has been the experience of all of us, often resulting in bitter disappointment.

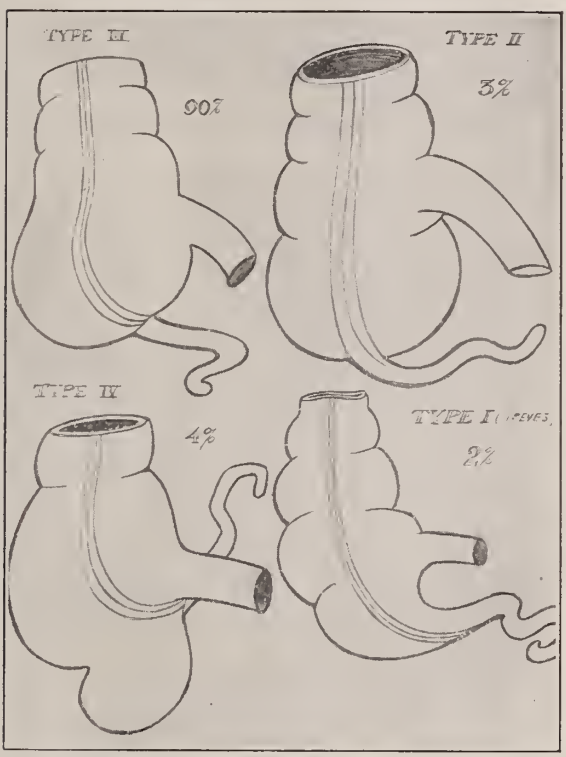

Fig. 6. These four types constitute 99 per cent. of all cases. Type IV exists in 4 per cent of all normal cases, but in pathologic involvement of the appendix it exists in a far larger percentage. It is in this type that careless technic is potential with the greatest evils.

As prophylaxis in a practical way, I would emphasize certain technical considerations. It is well to keep in mind the normal anatomic arrangement in and around the ileocecal region, as frequently from either embryologic defect or pathologic change *there is already altered structural relations which could easily be converted from a harmless to a crippling condition.* (Fig. 6).

First free the appendix close to its confluence with the cecum. This is good technic, not only to avoid so-called stump disease but, where the appendix and its shortened mesentery are dragged high into the ileocecal fossa, as is frequently the case, the terminal ileum or rather its longitudinal fibers as blended with those of the large bowel will not be dragged or invaginated into the cecum, increasing the normal intussusception and disturbing the lower lip of the valve by sutures, used either to peritonealize or bury the stump.

The treatment of the stump by the method of Gray, as illustrated in Binnie's Operative Surgery, would be a shining example of what not to do. Incidentally it would appear rational in extreme cases of this type to adopt the simple technic of ligating and cauterizing without any effort to invaginate or peritonealize, as followed by many fine surgeons.

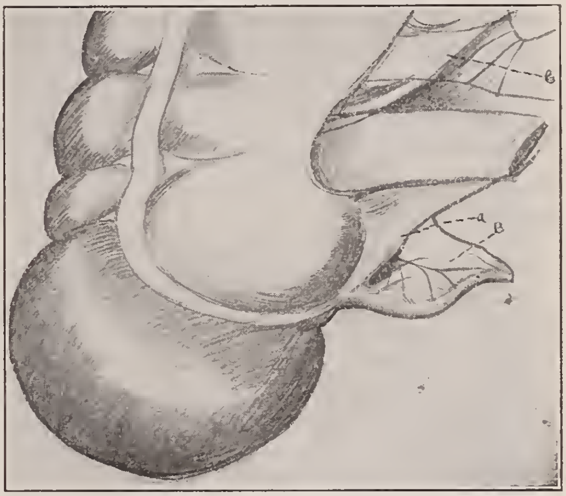

Fig. 7. This is the 90 per cent type of Treves. A, ileocecal fold which is so frequently included in the purse string. It can be readily seen that traction upon this fold is bound to disturb the normal ileocecal relations. It is well to note that this fold is avascular and that it is usually intimate with the mesoappendix. B. This could easily be included during the treatment of the mesoappendix. C is the ileocolic fold which is very vascular and in many cases, especially those with marked adhesions, is more or less integral with the superior portion of the terminal ileum.

Second, Where ligation of the mesoappendix by the Watkins or any en-masse method seems to change the ileocecal angle or drag the ileum and the internal terminal cecal sacculi closer together, it would be best to use fine multiple ligation close to the appendix.

Third, If purse string is used, arrange it so that it will not engage either the ileocolic or ileocecal fold, thereby more deeply invaginating ileum in cecum, or changing the angle of entrance. (Note fig. 7).

Fourth, Where you have the fourth type of Treves, with an immense development of the external terminal sacculi with atrophy or nondevelopment of the internal terminal sacculi, you already have the cecum swung around in a circle and an exaggerated condition, making a sort of funnel or guideway, encouraging deeper engagement of ileum with cecum it is advisable to infold the external sacculi upon its external aspect in this type, to overcome the tendency of internal rotation. (Note fig. 6, type iv).

Fifth, Knowing that cecum mobile is often associated with intussusception, a cecoxpexy would be indicated in these cases and for the same reason a shortening of any markedly elongated terminal ileal mesentery.

Ordinarily it would seem good surgery to leave intact the ileocecal and ileocolic fold, as they seem to act as a flange upon each side of the ileum to prevent the elongation emphasized by Kellogg. Where they are intimate with the operative field, they could be temporarily severed and then tacked back in the same relative position. The ileocoecal fold is bloodless and is usually intimate with the mesoappendix, and can be severed without any preliminary clamping.

CASE REPORT.

P. F. S., farmer, 26 years, admitted December 27, 1917. Entrance complaint, "indigestion." Family history negative, except father died of gastric carcinoma.

Past personal history. Diseases of childhood, otherwise negative (never to bed since a child). Habits, tobacco and alcohol moderate, big eater, especially of meat and fats.

Present illness. Appetite excellent. Bowels slightly constipated, which has been more pronounced the last three or four months. (Takes a physic as it seems to relieve him). Has had heartburn and gas since age of 15 or 16 years. When heartburn was bad he would occasionally vomit small amounts of very sour fluid. (Evidently a marked pyrosis). Had distress from gas for many years which would be relieved by belching, but no great pain until less than a year ago. He formerly relieved his distress by taking large amount of salt water and producing vomiting. Later on took Stuart's Dyspepsia Tablets (bis. of sodii). There would be a number of days or even weeks that he would feel well and then suddenly all the old symptoms would reappear. Several months ago he developed an epigastric pain of a gnawing, burning character. No particular food seemed to bring this pain on and he found by experience that all food seemed to relieve the pain for two or three hours. Large amounts of water would often relieve for a short period. Last month had several attacks of vomiting. Vomitus consisted of food contents, bile and acid fluid. Vomiting would only relieve him temporarily. Very often has cold sweats and becomes dizzy and at which times very irritable and "cross with his folks at home." Always has those sweats before vomiting. No clay colored or tarry stools. No history of jaundice. Urinary history negative. No history of gonorrhoea or lues.

Physical findings. Fairly well nourished, muscular man, about 5 feet 9 inches height. Temp. 98.4°, pulse 100, B. P. 135 systolic, 70 diastolic. Physical examination negative excepting slightly increased patellar reflex. Pain on light pressure over epigastrium and upon deep pressure over appendix and a certain amount of upper abdominal rigidity. No abdominal hernia, spleen non-palpable, liver dullness normal.

Laboratory finding. Ewald test meal well digested, HCl free 60, combined 90.

X-ray. Fish hook type stomach, marked spasticity without massage. Vertical fluoroscope, persistent angular deformity of duodenal cap. No six hour retention.

Diagnosis. Duodenal ulcer and possible appendix.

Operative findings. Indurated ulcer in first Otherwise exploration negative.

Operative technic. Right median high incision. Appendectomy, gastroenterostomy.

Patient readmitted March 20, 1918. Family history same as in previous history.

Present illness. About six weeks after patient left the hospital I received a letter from him, in which he stated that he was feeling fine, was absolutely free from his old gnawing pain. He stated, however, that he was finding some difficulty in getting a laxative "that did not cramp the life out of him." I answered his letter and referred him to his home physician. This was the last I heard from this case until I received a long distance phone that my patient would be in Providence Hospital March 20, about three months after previous operation.

Upon arrival he gave me a history of a most excellent convalescence, steady gain in weight, disappearance of all of his ulcer symptoms, i. e., grinding pain, for about six weeks, when he began to have indigestion and constipation. There was a period of at least four weeks when his bowels would move daily without a laxative, except that he took a mixture of magnesium and belledonna for eight or ten days after he left the hospital. This mixture he had refilled later on to absolutely no advantage. The constipation gradually increased. His home physician prescribed various active cathartics, including immense amounts of liq. petrolatum, all in increasing doses. Gradually he was required to take such immense doses that he was in continued and severe pain from the active peristalsis produced by them, until finally he preferred to abstain from food rather than suffer all the time.

He developed more or less constant nausea and later on began to vomit even on the ingestion of hot water. First the vomitus consisted merely of the ingested material but the last week it became almost suggestive of fecal contamination and would occur many times per day and with very slight propulsive effort. About two weeks before coming to the hospital he developed a tenesmus and several times daily would pass considerable amount of blood-stained mucus and even until day of the operation would pass slight amounts of flatus. He gradually developed a central distension and slight tenderness, especially over epigastrium.

The physical picture was that of a man starving, having lost 55 pounds. His pulse was weak and compressible and around 110, temperature around 99.4°. There was marked abdominal distension with liver dullness completely obliterated. No free fluid, no succussion sounds. During the attack of terrific cramp-like pains, which were referred more especially to the umbilical region, there would appear simultaneously a visible peristalsis in the same region, seemingly involving some loop of small gut. On account of the thin belly wall this was readily visible several feet away.

In view of the immense size of the tumor, it is with humiliation I acknowledge I absolutely overlooked the same and can only offer as an excuse the immense distension. The. fact is that I had already a preconceived diagnosis and I can not forbear to digress to mention this oversight as a glowing example of where preconception, egotism and downright laziness or a taint of the so-called intuitive diagnosis, will often lead us. Incidentally, by the same brilliant exhibition, I overlooked all of the most valuable information I could surely have gained by a proper rectal examination, either manual or x-ray. Carman in his recent book makes especial mention of the almost certain diagnosis by means of the barium enema, with the patient on the horizontal fluoroscope, visualizing the same from time to time under varying posture and massage.

I did satisfy myself however that both the normal and the artificial gastric stomata were patent. White cell count, 11,000.

After reviewing the findings I arrived at a diagnosis of small gut obstruction, due to one of the following causes: (1) Faulty mechanics of my gastroenterostomy, (2) adhesions (postoperative), (3) jejunal or gastrojejunal ulcer, (4) sponge overlooked at previous operation, (5) some form of internal hernia, (6) some fulminating malignant or benign tumor, possibly overlooked at previous operation, (7) circumscribed abscess, producing pressure from without the lumen of the gut.

Operative findings. Irreducible intussusception, six inches of ileum into large bowel at ileocecal junction. Bound down by adhesions. Ileum swollen, edematous and dark colored.

Operative technic. Resection and anastomosis of ileum to large bowel at about hepatic flexure, basting stitch method.

Patient left hospital at end of 16th day, making an uneventful recovery.

VINCENT'S ANGINA GINGIVITIS, ALIAS MERCURIALISM.*

By W. Ray Jones, M. D.

SEATTLE, WASH.

A Vincent is any acute infection, caused by the combination of a specific anaerobic fusiform bacillus and spirochete, which was first brought to the public in detail by Vincent, tho both Russian and French clinicians had previously reported it. The disease probably has been known since the beginning of mercurial treatment for syphilis. Homeopathy owes much of its early popularity to its treatment of lues in not substituting a salivation for a syphilis, the other schools maintaining salivation to be an essential to specific treatment. That as yet we do not recognize salivation as an infection, but cling to the idea that it is essential to effective luetic treatment is shown by the fact that we still give mercury until signs of ptyalism appear, and then split the dose in half.

Only quite recently has the germ interrelation of salivation and other infections been worked out. That the bacillus and not the mercury produced the salivation was not brought to public attention to any extent until army doctors began reporting epidemics of trench mouth and membranous gingivitis. That this stomatitis is often mistaken for other diseases such as diphtheria, thrush and syphilis, we all know. Also no one knows how many suspected syphilitic patients have been given quick mercurial treatment because of a suspicious sore, and then the resulting stomatitis, combined with perhaps an iodide rash, seemingly clinched the diagnosis in the minds of both the doctor and the patient, when really Vincent's existed and not syphilitic stomatitis. Even rather recent texts on genitourinary surgery fail to separate the Ducrey unna bacillus chancroid and the gangrenous ballanitis by a Vincent infection.

The organism[1] is an obligate anaerobic spindle-shaped bacillus, having also a spirochetal form. It grows on all ordinary media, tho best in the presence of blood. The bacillary form usually appears singly, tho sometimes forming long chains, and is gram-negative as ordinarily stained, but if carefully decolorized retains the violet. Sometimes it appears beaded to resemble sporulation. The morphology varies usually, appearing in pointed forms at one time, and as shorter vibrio-like organisms at other times. The size varies from one-sixth to two-thirds the diameter of a pus cell. The form varies both with the culture media and in the same media.

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* Read before King County Medical Society, Seattle, Wash., June 3, 1918.

The spirochetal form grows under the same cultural conditions as the bacillus, and is likewise as polymorphous, varying in length from one to four times the diameter of a pus cell. It is tapering toward the ends and fine and filamentous thruout. Coilings are irregular, some spirochetes being almost straight, others U-shaped, the more common form being straight from end to end with two to eight wave-like coils between. In culture the different forms revert to each other with seemingly no cause, and also by varying media. It is actively motile, with a snake-like motion, and at times has a spiral action. It is distinguished from other spirochetes by polymorphous form, ease of staining, motility, and being invariably associated with the fusiform bacillus.

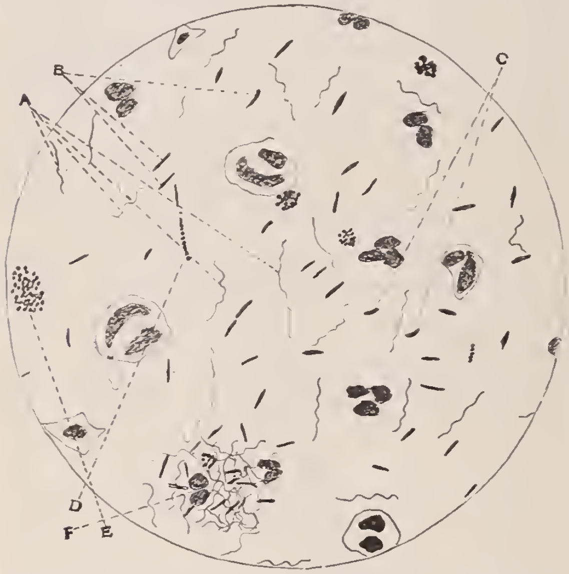

Fig. 1. Slide taken from the mouth of a mercurialized patient. A. spirochetes; B, fusiform bacilli; C, vibrio-like organisms; D, streptococci; E, staphlococci; F, nest made up of coiled spirochetes, bacilli, and necrotic material.

The culture produces an odor distinctly that of a very marked mercurial breath. Growth is fairly rapid in the form of small water-like, whitish spots. Colony life is short, and frequent transplantation is required. In culture the spirochetal form, vibrio-like organism and fusiform bacillus forms can be transmuted at will, tho not in pure culture, some of the others always appearing.

Slides taken from infected mouths show pus, necrotic material and epithelial cells, with very many spirochetes and fusiform bacilli, together with the vibrio-like less deeply staining organism, and various other bacteria. *The diagnostic thing is the combination of the fusiform bacillus and spirochete.* Slides taken from remote, more anaerobic places, with more destruction of tissue show a predominance of the spirochetal form. The organisms appear not only in the necrotic material, but in profusion in the water-like discharge (Fig. 1).

Any of the ordinary stains may be used, but as a diagnostic stain a modified formalin gentian violet gives the clearest picture. This, when applied for five minutes and lightly washed off, has a selective action of staining the fusiform bacillus most intensely, the spirochete fairly intensely, and pus and other organisms less so.

The basic pathology is the same wherever the infection is located, whether on the penis, cheek, open wound, throat or gingival margins. An eroded, covered surface (usually mucous membrane) and this bacillus are all that are necessary for this infection. Clinically, there is a whitish area resembling a milk curdle closely adherent to a red, raw, bleeding sore, with only a low degree of inflammation about it. Microscopically a cross section thru the membrane and ulcer shows a superficial layer of necrotic epithelial tissue, densely infiltrated with the organisms. Below this area, or at the center where it has sloughed off, is some infiltration of leucocytes and a slight swelling of the blood vessels, tho not to the same extent as with other ulcers. The germs are found both on and in the tissue, and in profusion in the water-like discharge. The most striking thing is the great destruction of tissue with the little reaction of inflammation.

That this infection is far more frequent than is supposed was shown by Bowman[2], who routinely examined 1,000 soldiers for teeth conditions, and found, of 816 cleaning the mouth carefully 38.4 per cent. carried Vincent's organisms in spite of no clinical signs; of 184 not cleaning the teeth carefully 75.6 per cent. were infected, but only 6 per cent. clinically so. Among 150 routine patients taking mercury whom the writer examined, 100 per cent. carried the infection, still only 84 had symptoms.

This infection develops only in people physically below par. This weakness may be due to the combination of syphilis and mercurial cachexia, to the mercury alone, or various other weakening influences, as wasting diseases, acute infections, alcoholism, or hard work and poor hygiene, as in the ulcerative gingivitis or trench mouth of Europe, which develops only among men below par, living under unhealthy conditions and unable to observe personal cleanliness. Noma was formerly considered a local manifestation of a systemic disease, following acute infection, cachexia, etc., and this germ merely a saprophyte living on the necrotic tissue, not the cause of the necrosis.

Contagion is proven by the epidemics of trench mouth, numerous hospital epidemics of original Vincent's angina and noma. In all, however, there must be the predisposing factor of an individual physically below par and some local susceptibility. Lower animals experimentally inoculated were not susceptible[3]. This is probably due to the predisposing factors being absent. Were the laboratory animal mercurialized or tuberculous, or for some other reason of lowered resistance, infection would be more probable.

In all Vincent's air must be excluded from the infected area for the ideal conditions of growth. Given these factors, we may have various conditions develop, the germ being a rather common inhabitant of mucous surfaces of the body, and only becoming pathologic under extraordinary conditions. In gangrenous ballanitis we have a tightly fitting foreskin, covering an unclean tender mucous membrane that recently suffered injury. In gingivitis we have an anaerobic area between the gum and teeth.

As a prominent factor in mouth infections are crowns or bridges acting as local irritants, bridgework especially retaining food particles and producing an anaerobic incubator under which the germs can grow in abundance. At times the gums swell and become so badly infected under bridges as to make their removal necessary.

Carious roots are not the menace that first class crowns are in this trouble, the gums about them seldom being badly involved. Crowns are always foreign material and keep up irritation on the gum, which is only too ready to become involved. Even a plate is a menace, however, covering bacteria and keeping the air out, one of our patients developing a very severe infection under one.

Tho the site of the involvement is usually the mucous membrane, Rosenow and Tunnicliff[3] report a systemic involvement with pyemia and multiple abscesses. The writer has isolated the germ from the urine in a case of prostatic stone, following an abscess with sloughing. Also a prostatectomy case had a secondary wound infection with resulting necrosis. A syphilitic patient having a mouth infection developed a local necrosis from "606" in the arm tissue and a secondary Vincent's infection in this.

Pseudodiphtheria has a specific germ, tho various others cause this condition. In this vicinity, however, most of our pseudodiphtheria is Vincent's. This is usually superimposed upon an ordinary tonsillitis with the added factor of uncleanliness standing paramount.

The fact that mercury lowers the hemoglobin content of the blood, and consequently the human vitality, is the basis of the old Justus test for syphilis. Also that mercury is excreted thru all organs of the body, mouth not excluded, has been proven too many times to quote. Also, since the mercurialized gum adoining the teeth always harbors bacteria, it is the easiest place attacked.

That small quantities of mercury are enough to produce favorable conditions for infection was shown experimentally by giving 54 syphilitic cases in quarantine with no Vincent's, one-fourth protiodid pills three times a day for two days. At the end of this time bacteriologic examination showed 52 cases infected, and in another day the other two were. All were clinically non-Vincent's before taking the mercury. These patients did not use the same dishes without sterilizing, nor have a common drinking cup, nor any other common property. The wards were intercommunicating, however. We considered all as being infected, the mercury only developing the infection.

The basic principle that acids cause salivation probably arose from the observation that acids in the mouth produce a flow of saliva, and when unhealthy the secretion is more noticeable. The drooling is reflex and due to the mouth irritation, just as in chewing tobacco or smoking, and is not due to salivary gland infection. The false membrane is most irritating, and the burning at times quite severe, so salivary flow is not surprising. Several of these 54 one-fourth grain cases had to keep a towel under the head to catch the saliva, and not one case of gland tenderness was present. The deduction that it is not due to gland pathology is natural. The severity of the gingivitis is no index of the salivary flow, nor is the systemic reaction, some with least involvement having most drooling.

In this series, 218 cases altogether were treated, and 150 of these were quarantined syphilitics taking mercury while studied for this paper. Of this 150, 130, or 82 per cent., showed a simple gingivitis without complications, some of which were quite severe. Eight, or 5.3 per cent. had bad gingivitis and glossitis. Seven, or 5 per cent., had also a pseudodiphtheric inflammation. Thirteen had multiple canker sores over the mouth, two laryngitis, one rhinitis, and one a secondary infection in a slough following 606 infiltration into the tissues.

The more frequent involvement clinically is the gum edge between the lower central incisors (Fig. 2). Here a little food collects and forms an anaerobic area by covering the mucous membrane, and the germs begin to grow. At this stage it appears as just a red shrunken gum, more shrunken between than at the sides of the teeth, irritated at the edges and covered by a little remaining food. Pressure may express a little water-like pus that is literally swarming with spirochete and bacilli. The adjoining gums look normal except for slight whitish accumulation resembling a coated tongue. There is no tenderness and the only symptom is a tendency to bleed on slight provocation. In this stage prophylaxis prevents further spreading. If, however, mercury is continued, or an old pyorrhea is present, or cleanliness is neglected, all teeth become infected.

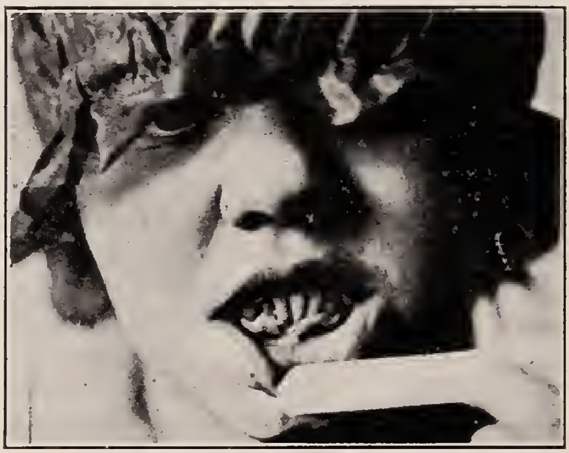

Fig. 2. Typical Vincent gingivitis mouth; gums shrunken between the lower central incisors, swollen and baggy at the sides.

Later a tenacious white film forms over the gum margin on both labial and buccal surfaces. If the patient has a previous pyorrhea, all symptoms are accentuated, and infection quickly spreads down between the gums and roots of the adjacent teeth. The gums become so sore that cleaning is neglected, while food accumulates to cover the infected area, with a result that a vicious circle is started. More tenderness, more food accumulation, more anaerobic area for germ growth, more irritation, less cleaning, more germs, more tenderness, and the circle is repeated. The breath takes on the characteristic mercurial odor and complications develop.

The first complication is plain; this may be either a burning at the gingival margin or a real toothache. There is an extremely bad taste in the mouth, canker sores develop on parts of the cheek abraded by rough teeth, and profuse salivary flow may appear, tho this is not the rule. Later the soreness becomes so severe that eating is deferred. Whenever food touches the ulcers there is a buning pain, even water starting it. Then, without any provocation, the gums burn incessantly, and the teeth are so tender that the mouth can not be closed. General malaise develops, and slight fever may be present. The striking thing is the severe systemic symptoms with so little fever and pulse acceleration. The patient may become bedridden and still have a normal temperature. A common and prominent symptom is painful submental adenopathy. Frequently the submental adenopathy and tenderness are noticed before the mouth soreness is complained of. At times torticollis develops as a most distressing complication. We had one complicating case of middle ear involvement.

Some of the more severe complications are extensions into the deeper air passages, Winslow[4] reporting two deaths in our King County Hospital from this. Extension down to the denticle roots with abscess formation sometimes occurs, three such cases having come within our own observation. Extension into the nose also is serious, tho if the patient has recuperative powers and the mercury is stopped, a quick recovery takes places. Persistent tenderness and looseness of teeth often tempt the patient to have them extracted. This is unnecessary unless they are so decayed as to be otherwise useless, as teeth loose from a simple Vincent's reset fairly well when the infection is cleaned up. The possibility of this keeping up a focal infection center, however, should not be neglected.

One of our cases died of acute yellow atrophy of the liver following a most severe Vincent's. Another developed cholecystitis, tho perhaps the gallstones removed at operation had been present for years without symptoms. A third developed a gastric ulcer. Two had severe recurrences of chronic rheumatism. No appendicitis was encountered, however.

Since the disease, wherever located, is due to a parasite living in anaerobic conditions, under a cover of necrotic tissue, upon a host below par physically, efficient treatment must aim at both inhibiting growth of the organism and improving the body resistance. Air must be gotten to the infected parts in every way possible. Recently oxygen injections have been recommended in errosive ballanitis[5], but here all we need to do is to keep the debris away so that air can get in. All treatment is an absolute failure unless this is done, and any is fairly efficient if it is done.

In the initial stage the patient should be sent to the dentist for removing any rough edges on the teeth that might abrade the cheeks. Have the first membrane removed as formed, and prevent another forming by observing dental cleanliness. Cotton pledgets wound tight on a toothpick are better than a toothbrush for this cleaning. It should be done after each meal, using mirror so as to locate all infected places, and after cleaning, a mouth wash of sodium perborate, teaspoonful to a half glass of water furnishes oxygen and cleanses as well. Peroxide, the old specific, is contraindicated because of explosive action driving the infection deeper into the gingival margins. A local application of a 1 per cent. solution of zinc sulphate helps to harden the gums and prevent infection. Strong medicine as iodine and silver nitrate should not be used because of destroying too much mucous membrane. A weak iodine mouth wash is of some value, however.

After the infection becomes general, the same cleaning is essential, and a temporary stopping of the mercury becomes necessary. Cleaning the teeth and sprinkling arsphenamin powder on the gums is given by some as a specific. The relief is quick with this. However, we found the same relief given by perborate of sodium, or liquor antiseptics, mouth washes, and even plain water treatment, and with the cleaning only, the cleaning being the constantly essential thing. Arsphenamin intravenous also has been given as a specific experimentally.

In ten cases without cleaning we got some relief, and ten others with cleaning almost complete relief from symptoms following 606 injections. The other cases were given no salvarsan, but mercury stopped, and teeth cleaned gave relief also, but not so complete nor so sudden. Ten cases having mercury stopped and given but local astringent mouth washes without teeth cleaning improved slowly, but after a week were sent up for cleaning and then quickly recovered. The deduction must be that arsphenamin is only efficient in conjunction with teeth cleaning.

Sodium cacodylate in five grain doses even day for twelve days was tried on five cases with no appreciable results. Argyrol and other proteid silver salts after cleaning the teeth were strongly recommended by our dentist. This was tried, but was found no better than other antiseptics, and discarded because of discoloration to the teeth.

As for various mercury preparations affecting the mouth differently, the one-fourth grain protiodide pills, inunctions of blue ointment, hypodermics of one grain of the salicylate, and hypodermics of one-sixth grain protiodide in solution of potassium iodide were all tried. The salicylate was found to produce the most gingivitis, as we could not stop its action after injection. It kept on being absorbed slowly instead of at once as was the aqueous solution of the yellow iodide, pills or inunctions.

The real specific for the pain is 10 per cent. guiacol in glycerine. The canker sores and burning in the gums are relieved like magic by painting with this preparation. When the patient is in torment and cannot sleep, local application to the sores insures two or three hours rest, even when a thick membrane is present. The relief is not permanent, however, the guiacol merely acting as a local anesthetic and the glycerine as a vehicle. No local medical treatment is of any great value because of the germ growing only in inaccessible places which neither drugs nor air can reach.

CONCLUSIONS.

Salivation is an infection, not a toxemia from mercury.

Only persons physically below par are susceptible to the infection.

Cleaning to let air in is the only sure cure (specific treatment).

Ten per cent. guiacol in glycerine is specific for the pain.

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Alcohol	10 c.c.
36 per cent. acetic acid	3 drops
5 per cent. formaldehyde	80 c.c.

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GONOCOCCAL EPIDIDYMITIS IN THE SOLDIER.*

By Capt. Alexander H. Peacock, M. R. C.
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I bring before you an old subject in just a little different light. In considering this complication of a gonococcus invasion, we must remember the difference in physical activity of the soldier in active training and the civilian. One is not only doing manual labor, but is also an athlete, running, jumping, marching, lifting, thrusting and going thru exercises which have been so accurately worked out that every muscle in the soldier's anatomy is stretched and exercised. This is kept up by the hour, day after day. On the other hand, the civilian, as a whole, lives a very limited physical existence. He may be greatly fatigued, nerve fagged, but even he can rest or adjust his work, making it possible to favor and protect an injured organ. This is not true of the soldier. It is all either drill or quarters, there is no "light" duty.

I need only trace for you the course of a gonococcus infection. The urethra is invaded at the meatus, and by direct extension spreads to the posterior portion. Here the invasion may limit itself and spread further into the prostatic or ejaculatory ducts, the prostate and seminal vesicles being thus involved. Next the infection continues up the vas deferens, producing an acute vasitis, the vas swelling to the size of a lead pencil or the little finger. At last the end of the seminal vesicle duct is reached in the complicated convolutions of the epididymis itself.

The epididymis is a crescentic body, triangular in section, that covers the entire posterior border of the testis. At the upper pole it is attached to the sexual gland by a serous membrane and by the efferent ducts that establish communication between the testis and its excretory duct; it is at this point the gonococcus infection stops. The succeeding part, the body, gradually tapers as it descends to the lower pole, the epididymis (cauda), that doubles backward to become the vas deferens. When unraveled the cauda measures from 5 to 5.5 metres in length. The transition of the channels of the rete testis into the efferent ducts is marked by an abrupt change in the lining epithelium, the low cuboidal cells giving place to the irregularly ciliated columnar elements within the latter. The canal of the epididymis is lined thruout by a double layer of tall and slender columnar cells, the free ends of which bear cilia of exceptional length. The wall itself is surrounded by a layer of involuntary muscle.

The sickening pain following contusion of the testis or epididymis is due to pressure upon or irritation of the testicle nerves which, by way of the spermatic plexus, communicate with the aortic and solar sympathetic plexuses. A similar communication with the renal plexus explains the testicular pain and retraction accompanying the passage of renal calculus. The primary development of the testicle in the vicinity of the tenth dorsal vertebra has determined its chief innervation from the tenth dorsal segment of the cord, and thus its relation to the posterior division of the lower dorsal and the lumbar nerves, which cause the "backache" so commonly complained of in orchitis and epididymitis.

The vas deferens is some 45 cm. in length, and 2-3 mm. in diameter, tho the lumen is very small, 5 mm. The mucous coat is clothed with epithelium, consisting of a double layer of columnar ciliated cells.

Understanding the minute histology, it is very easy to grasp the pathologic changes, due to infection extending along this tract from the urethra. The vas first becomes infilltrated and edematous, next the tail of the epididymis begins to swell, and later the entire structure may become involved, the body of the epididymis usually being spared.

The inflammation of the epithelial lining of the ducts and tubules fills them with a serous exudate; pus cells are mingled with the seminal fluid, and a culture established. Resolution from ten days to many weeks is the rule, altho suppuration may result and small abscesses form. When the inflammation is severe, there may be an effusion in the tunica vaginalis, producing an acute hydrocele, which often requires tapping for relief from pressure pain.

At the operating table we find the epididymis converted into a greatly enlarged body, hard, indurated, cutting like a cellulitis. In the caput, or cauda, often is found a localized abscess. If the inflammation is an acute, recent one, the gonococci can be demonstrated by smear or culture. In old chronic recurring infections, we often find a couple of drops of pus which fail to reveal the gonococcus. The gland is engorged, bleeding freely on incision; the vas deferens is also greatly swollen, and on longitudinal incision shows edematous walls.

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*Read before City and County Medical Society, Portland, Ore., July 31 ,1918.

The symptoms of acute gonococcal epididymitis are familiar. The patient feels sick all over, nauseated; locomotion is painful and difficult; the temperature is sharply elevated, and he gladly takes to bed. The leucocytes are greatly increased, 15,000 being an average, tho a recent one ran to 29,600. The epididymis is sickeningly tender; the globus minor is well rounded, and at first feels like an English walnut and, as the infection spreads to the caput, the gland becomes crescent shaped. In some cases the globus major will be the only portion affected.

When the entire epididymis is involved, the sharp division between the testis and its system of efferent tubules—the digital fossa—will be obliterated by the swelling. This is commonly seen in mumps infections, and the complication labeled orchitis.

Chronic epididymitis is a condition which is most distressing and disabling. After days in bed, with apparently well-nigh complete resolution, a small nodule is felt in the globus minor. The soldier is returned to his organization, put back on drill, and in a few days he is sent back to the hospital, suffering a relapse, swollen again. Or he will be up and around the ward, put on kitchen police, strains himself ever so slightly, when the infection flares up, and back to bed he goes for several weeks more. It was these relapses that suggested surgical methods, to shorten the time of these men in the hospital, to relieve their pain at once, and to thoroly eradicate the infection for all time, so that when a soldier was marked "duty" and sent back to his regiment he could perform his work as well as ever.

Our results have been brilliant. The stay in the hospital has been cut down from six or eight weeks to two or three weeks at most. The relief from pain is instantaneous, and never is there a pain after the patient recovers from his anesthesia. The testicle is not even tender to the touch and, best of all, we have no recurrences.

The operation itself is very simple. For acute cases we employ epididymotomy and for the chronic epididymectomy.

General anesthesia is necessary on account of the acute tenderness. We use nitrous oxide. The scrotum is cleansed with tr. soap and warm water, and then douched with a 1:2,000 solution of bichloride of mercury. Tr. iodine, alcohol and ether will burn the skin of the scrotum.

The testis is held firm, turned on its upper pole so that the most prominent part of the swelling is upward. After incising the skin and deep fascia, the swollen epididymis is pressed up thru the incision. This is split from end to end, seeking the small abscess usually present in about 80 per cent. The cut edge of the epididymis is sewed to the skin wound to keep it open and to preserve drainage—a piece of plain gauze being packed in the wound to check the oozing. This also checks the bleeding from the incised epididymis. Chromic catgut No. 1 is used thruout. The wound is dressed and the testicles laid upon a bridge of three inch adhesive plaster, from thigh to thigh. The convalescence is rapid, the wound healing in ten days or two weeks, and the soldier returned to duty or quarters.

Epididymectomy is performed much the same way, except the diseased portion is dissected down to the digital fossa, and the denuded base drawn together by fine plain gut suture. The various sheathes are drawn together again and the skin wound closed tight with interrupted sutures, no drain being employed. They unite by primary intention and the patient is out of bed in a week's time.

We have now run a large series of these cases and feel that by incision we have the ideal treatment for this crippling complication of gonococcus origin.

Streptococcus Toxin. A. H. Clark and L. D. Felton, Baltimore (Journal A. M. A., Sept. 28, 1918), have cultivated from the hemolytic streptococci, isolated in cases of bronchopneumonia in patients in army camps, a filtrable toxic product which is toxic for rabbits, occasionally, in doses as low as 0.5 c.c. to the kilogram. The culture was made in sterilized defibrinated rabbits' blood diluted with Locke's solution. The presence of hemoglobin is essential. The filtrate is destroyed by heating to 50 C. for thirty minutes; it is dialysable; and requires a certain incubation period in the animal to show its toxic effects. It is nonhemolytic in vivo or in vitro; slowly loses its toxicity in icebox temperature; an immunity can be rapidly established against it, and the blood of the immune rabbits when injected with the toxin can neutralize its toxic effects. Rabbits immune against this toxic substance are resistant to living streptococci.

OBSTRUCTION OF THE LACHRYMONASAL DUCT.*

By T. W. Kelsey, M. D.

SPOKANE, WASH.

The normal lachrymonasal duct is probably never patulous. The tears pass thru this duct by capillary attraction, gravity and muscular contraction. Obstruction may occur at the puncta, in the calaliculus or in the lachrymonasal duct proper.

The duct is lined with a mucous membrane which is enclosed in a solid bony canal with a layer of connective tissue between the two structures. The abundant blood supply of this tissue is in direct communication with that of the nasal mucous membranes. Consequently the size of the duct, its structure and the character of the surrounding tissues explain the susceptibility to stenosis from seemingly insignificant causes. In most cases of chronic dacryocyctitis the inflammatory process precedes the stricture.

Lachrymal stenosis is caused by a congestion of the mucous membrane, together with or often preceded by an engorgement of the subperiosteal veins beneath it, cicatricial tissue or bone disease. The blood vessels are engorged in disease or obstruction in the region of the middle or inferior turbinates. Congestion in simple rhinitis, ulcers, scar formation and new growths are frequently nasal factors in the etiology. The cicatricial tissue in the lachrymonasal duct is due to a long continued infectious process, or more frequently to the injudicious use of probes.

The primary inflammation usually advances by continuity of tissue from the nose. Conjuctivitis is very seldom a cause, but is usually present as a complication. Since the walls are in contact in normal conditions, little engorgement or swelling is needed to make the passage impervious to fluids. These fluids accumulate in the sac and become stagnant, causing an irritation of the walls. The mucous membrane lining the sac wall reacts to the irritation by excreting an excess of mucus. Finally pus infection and a leucocytic accumulation occur, with its characteristic scar formation and stricture as a sequel. As a matter of fact, however, the trauma incident to vigorous probing has usually increased the density of the stricture and the rapidity of its formation.

Bacteriologic investigation has proved that the mucous or mucopurulent material contains many varieties of pathogenic organisms, including almost constantly the pneumococci, which are frequently extremely virulent. It goes without saying that a septic focus of this character, left untreated, is not only a constant source of danger to the general health of the individual but locally it furnishes an ideal etiologic factor resulting in many serious eye complications. Besides being a common cause of panophthalmitis, the pneumoccoccus is considered the sole causal factor of the hypopyon or serpiginous ulcer which rapidly perforates the cornea and destroys the eye as a visual organ, unless promptly and vigorously treated. Less disastrous sequelae are acute exacerbations, leading to the formation of lachrymal abscesses and variable degrees of chronic conjunctivitis, depending upon the virulence of the infection and the resistance of the conjunctiva. The danger also of orbital periostitis and cellulitis with abscess formation cannot be overlooked..

The most important symptom of which the patient complains is epiphora, or an overflow of tears, especially when out in the wind. Pressure over the distended sac forces the contents into the nose or back into the conjunctival sac, depending upon the degree of obstruction below in the duct.

The belief has been that tears are constantly secreted and the overflow is due to an obstruction in the lachrymonasal passages. Recent investigation based largely on modern operative work has questioned this theory. It is a well known fact that lachrymation ceases after the successful excision of the lachrymal sac, altho the duct has been completely closed. According to this theory the gland must either atrophy or the lachrymal secretion be absorbed by the conjunctiva. Investigation has shown that, by careful comparison of the glands from both sides, no difference in weight nor any deviation from the normal in microscopic sections can be shown to exist. Should the operation be imperfectly done, however, and a part of the septic sac left, the epiphora would persist.

The researches strongly point to the increased lachrymation as a secondary process, due to the toxic focus near the conjunctiva. Consequently with the removal of the lachrymal sac this reflex stimulation of the lachrymal gland ceases and the normal flow of tears is usually only sufficient to moisten the cornea. At first thought the idea of excision carried with it that of a permanent epiphora. Experience has shown that it does not occur. With the removal of the sac and its corresponding irritation only the amount of tears needed to moisten the conjunctiva is secreted.

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* Read before Spokane County Medical Society, Spokane, Wash., May 9, 1918.

An exception to this rule is found in the epiphora which follows irritation by dust, smoke, wind, etc. Some authors have recommended the removal of at least the palpebral portions of the lachrymal gland after excision of the lachrymal sac to prevent the epiphora. The writer has never found it necessary to remove any part of the gland. The importance of efficient treatment of lachrymal obstruction cannot be too strongly insisted upon for, as has been shown, a lachrymal sac filled with mucopurulent matter is a constant menace to the eye.

Since between eighty and ninety per cent. of cases of lachrymonasal stenosis are secondary to some pathologic nasal condition, such as rhinitis, ulcers, hypertrophies, neoplasms, etc., no local treatment should be instituted until a thoro rhinologic examination has been made and the necessary medical and surgical steps taken to remove any pathologic condition found in the nasal examination. In general, the investigation should include the possibility of lues or tuberculosis as being etiologic factors and if present should receive appropriate medication and attention.

The necessity of early treatment of epiphora is evident, while unassociated with purulent secretion, if found to be really due to dacryostenosis. Since it is usually caused by swelling of the mucous membrane which is associated with pathologic nasal conditions, the excessive lachrymation can be relieved by proper intranasal treatment, together with the irrigation of the sac with suitable antiseptic and astringent solutions. All silver solutions, however, are to be interdicted for this purpose, because of the possibility of some of the fluid finding its way into the cellular tissue, resulting in a permanent argyrosis of the part.

After thoroly cleansing with a mild antiseptic solution, such as zinc sulphate and boric acid, a few drops of a cocaine and adrenalin solution introduced into the lachrymal sac will so contract the swollen and edematous tissue that fluids will usually pass thru very readily in a short time. Especially is this true in the earlier stages, and many a stenosis from an apparent stricture will eventually give way when this line of treatment is carried out persistently for a considerable period of time. In long standing disease, however, the lining membrane becomes thickened and may close the duct at any point in its course, as well as at the beginning where the caliber is the smallest. When this infiltration becomes so dense that astringents fail to produce an effect, more radical treatment must be instituted.

The use of styles and canulas in the treatment of these cases has practically been abandoned and the probe is rapidly coming into disuse. The treatment by probing must necessarily be prolonged because of the universal characteristic of new fibrous tissue. It will contract and strictures will recur. The pain which accompanies the probe is another complicating factor. Besides, one frequently sees an acute dacryocystitis precipitated by its use.

This form of treatment has been aptly characterized as, "a weary cycle of epiphora and pus alternating with probes and pain." It is not an ideal method. The writer has seen good come from careful probing, but much more often no permanent relief is obtained and frequently the patient is left in worse condition than he was before the probes were used.

Suppurative dacyocystitis of long standing usually signifies distinct pathologic changes. Consequently, in the great majority of infectious cases, with a dilatation of the sac or one in which dense strictures have formed from frequent probing, it becomes necessary to resort to an extirpation of the sac before permanent relief can be promised.

For several years extirpation of the lachrymal sac has been quite generally advocated for cases of chronic dacryocystitis, but the operation has been performed successfully by comparatively few oculists because of the difficulty of the dissection. It cannot be claimed that the removal of the tear sac in its entirety is easy, but if the surgeon will study the anatomy of the parts carefully on the cadaver, and repeatedly practice a definite operative technic on fresh anatomic material, he need not fear the operation on the living.

If one is thoroly familiar with the anatomy of the parts and with the proper technic of removal of the sac, there need be no dread of failure to find the structure or no necessity to remove it piece-meal. When properly performed, the operation yields most gratifying results, as the source of the pus formation is removed and the patient is relieved of the possibility of an acute dacryocystitis or other complicating sequelae. It should be borne in mind that in taking out the lachrymal sac the surgeon does not rob the patient of tear drainage, as there is no passage of lachrymal secretion thru the drainage apparatus into the nose in cases which are suitable for the extirpation operation.

Several operations have been suggested for establishing drainage into the nose thru a passage made in one way or another thru the nasal wall of the lachrymal sac, the lachrymal and superior maxillary bones and the nasal mucous membrane. The false passage made by these operative procedures usually closes and the final results are disappointing. Complete removal of the sac is far more satisfactory.

Kanpp gives the following indications for the extirpation of the lachrymal sac:

(1) Chronic purulent dacryocystitis if of some standing and antiseptic treatment has not succeeded in curing the suppurating character, or if the sac is dilated. In this class of cases the great danger to the eye in possible corneal affections should not be lost sight of.

(2) Repeated attacks of acute dacryocystitis with abscess.

(3) Whenever the sac is dilated, whether the contents can be expressed or not.

(4) Lachrymal fistula.

In order to secure good results every particle of the sac must be removed. The difficulty of excision varies greatly because of the anatomic location of the sac and the pathologic condition present. The hemorrhage which was formerly a distinct disturbing factor can usually be kept under control by the newer models of retractors and the use of adrenalin.

A general anesthetic is hardly indicated except in nervous, restless or young patients, for the operation can be performed partically without pain under proper local anesthesia. A reliable solution for injection is made up of one part cocaine 4 per cent., one part adrenalin 1 to 1000, and two parts of distilled water. This is very satisfactory when freshly prepared.

Superficial injection is made beneath the skin along the line of the proposed incision over the anterior crest of the lachrymal groove. A deep injection is made above the internal canthal ligament into the dome of the sac. Another deep injection made below the ligament and still another made into the lachrymal canal. After ten minutes the parts are thoroly anesthetized. An incision commencing 3 mm. above the internal canthal ligament and 3 mm. away from the inner canthus should extend downward and outward, following the curve of the anterior crest. After the canthal ligament has been cut and the fibers of the orbicularis dissected from over the sac, the position of the crest of the lachrymal bone should be located and used as a guide to the exact position of the sac. Care must be taken to avoid injury to the angular vein and orbital structures.

Complications are apt to occur in finding the sac unless the location of the anterior lachrymal crest is kept in mind during the entire operation. By using this land mark as a guide there is no danger of entering the orbital cavity. After the incision has been carried thru the deep fascia the sac is exposed. This should be dissected out by blunt dissection and every particle removed. Finally, the lachrymonasal duct should be curetted. If the surgeon has been successful in removing the sac in its entirety, it will not be necessary to curette the lachrymal groove but, if it is feared that mucous membrane may be left behind, it should be removed by careful but thoro curetting. The cavity should be irrigated with boric acid solution and, if the operator chooses, he may swab it out with tincture of iodine.

In sewing up the wound it is good practice, but not necessary, to sew up the canthal ligament, and the skin sutures should be introduced in such a manner that the temporal flap will be slightly raised, as the tendency following this operation is toward ectropion and proptosis of the lower lid, especially if there has been a fistula and inflammatory tissue has been removed.

After the sutures are in, bichloride vaseline is smeared on the wound and an iodoform gauze dressing applied under a pressure bandage. The pressure is necessary in order to insure an obliteration of the sac cavity. The first dressing is left on for two days. The sutures are removed on the fourth or fifth day following the operation. The wound usually heals by first intention without a scar. After a few weeks no epiphora should occur.

The Pulse After a Marathon Race. The question whether the severe exertion of the Marathon race can cause pulsus alternans has been studied by P. D. White (Boston), France (Journal A. M. A., Sept. 28, 1918). Radical pulse tracings were taken by him on twenty-five contestants in the Boston Marathon, April 19, 1916. They were taken within five minutes after the finishing of the twenty-five miles by each one. No alternation was found in any person. Marked sinus arrhythmia was found in two cases, but the only abnormal arrhythmia was one ventricular premature contraction found in the third man to finish, and this was not followed by alternation. The pulse rates as calculated from the tracings ranged from 72 to 107, with an average of 91.

NORTHWEST MEDICINE

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EDITORIAL

MENINGOCOCCUS MENINGITIS AND THE CARE OF ANTIMENINGITIS SERUM.

Sporadic cases of cerebrospinal fever (meningococcus meningitis) have occurred thruout the summer in various parts of the Pacific Northwest with sufficient frequency to warrant anticipation of the probability that their number may greatly increase during the approaching winter, for cerebrospinal fever is essentially a winter disease. The deduction is inevitable that physicians should be on the lookout for and should try to diagnose the disease promptly, the early hours being precious from a therapeutic standpoint, and preparations should be made to meet each case as it occurs. The Flexner antimeningitis serum has enormously reduced the mortality from this disease. Herrick, in the *J. A. M. A.* (August 24, 1918), reported a total of two hundred and sixty-five cases of cerebrospinal fever treated at Camp Jackson, of which one hundred and thirty-seven received intraspinal injections with a mortality of 34.3 per cent. One hundred and twenty-eight patients were treated by means of intraspinal injections, combined with intravenous injections with a mortality of 14.8 per cent. After reading Herrick's article one must conclude that the combined treatment is of most value in the very early cases, but requires enormous dosage which, with the present high cost of serum, would be impracticable as a routine method in ordinary practice. The intraspinal treatment is much less expensive and should be used in every case whether or no it is supplemented by intravenous injections.

One of the great difficulties locally encountered has been that of securing an adequate supply of serum. Antimeningitis serum, according to instructions on the package supplied by Mulford and Company, retains its virtue when kept at a temperature of 5 to 15° C. The writer recently was obliged to search the stocks of various drug stores for a supply of this precious substance. In one drug store there were two packages, both over six months of age and both out on shelves in the open room with the thermometer hovering around 90° F. One wholesale drug store had six packages of various ages, all in the stock room. There is reasonable probability that some of these may later be found carefully iced in some of the retail stores. The inevitable result will be that if used it will be worthless or worse than worthless. The matter has been taken up with the manufacturing houses and an effort is being made to insure better care of this product. It is now called to the attention of physicians, in order that they may bear in mind the possibilities of having an inert or worthless serum presented to them and all should be on the lookout to safeguard patients from this danger.

CARE OF SERUMS.

The preceding editorial on meningitis serum suggests the necessity of greater precautions on the part of druggists in the care of the various serums which are being so extensively used in the treatment of disease. Most, if not all of these serums, are sent out in packages which are wrapped in paper covered with printed instructions, among the latter being that the product should be kept cold. Notwithstanding this, many retail drug houses even of large size possess no refrigerators, tho they handle large stocks of therapeutic serums. Inasmuch as some if not all these decompose if kept warm, it seems advisable to urge physicians to call the matter to the attention of pharmacists in the hope that better care may be taken of these products. Some very brilliant results have been obtained from the use of serum. How many failures, how many deaths may be attributed to faulty care by the druggist? The subject is well worth investigation and the user of serum should be alert to protect the interests not only of his patient but of himself.

THE INFLUENZA EPIDEMIC.

The numerous scare headlines in the daily press, describing in sensational terms the epidemic of influenza which is prevailing in the east, naturally places the lay reader in a greater or less state of panic for fear of some pending calamity which may at any time attack any individual. Many of us will recall the extensive epidemic of this disease beginning on the Atlantic coast in 1889 and reaching the Pacific a year of two later. It was designated then as the Russian influenza and now as the Spanish form of the disease. It is evidently nothing more nor less than a severe form of influenza which has prevailed from time to time during many past years. Following the usual course of the disease, many cases are already appearing in the Pacific Northwest. While there is no occasion for undue alarm, as is well known to all physicians, the professional knowledge possessed by them can be exercised in no more beneficent manner than allaying the widespread anxiety which is already disturbing the people to a greater or less degree. If each one can persuade his clientel to possess themselves with equanimity and fearlessness, the epidemic will undoubtedly develop in a much milder and less harmful form than will result if it comes to a receptive field prepared by fear and worry.

WOMEN PHYSICIANS IN WAR SERVICE

No one will question the patriotism of the women physicians of our country, as is evidenced by the many branches of war work in which they are engaged. There are said to be 6,000 practitioners, of whom something like one-third have registered with the General Medical Board. Naturally the spheres of war activity open to them are limited, compared with those of the opposite sex. Yet their services are needed just as much as those of the men to help win the war. Dr. Emma Wheat Gillmore, Chairman Committee of Women Physicians, General Medical Board, Council of National Defence, has issued an appeal to the women physicians of the country to join the Volunteer Medical Corps which is open to them on the same terms as to men. She states that a certain number of women have already signed up for this corps but it is desired that all of them shall join it. She states that this is an ideal procedure for mobilizing the military service of the country for selective medical war service. It will place loyal and patriotic women by the side of those men who are willing to give themselves. Even tho they may not be selected for any particular service, their names will be on file with the government as willing to serve as far as their strength and capability will permit and no one can point a finger at them and say, slacker. Medical women with a vision see in the Volunteer Medical Service Corps an incomparable method of organization which will register their qualifications and place them in an identical coded class system with the men physicians. It is hoped all women physicians will grasp this opportunity of registering themselves as ready for this service.

MOBILIZATION OF WOMEN PHYSICIANS FOR ANESTHETIC SERVICE.

Every effort is being made to keep war surgery at top-notch efficiency and to provide every wounded American doughboy with safe, rapid and comfortable anesthesia, both at the Front and in the hospitals in Blighty. In this connection the following telegram is self-explanatory:

Washington, D. C., Sept. 18.

Dr. F. H. McMechan,
Avon Lake, Ohio.

Proceed at once to secure qualified women physician anesthetists under 45 years, of mental poise; as well as young women graduates, who are competent for such service.

(Signed) Dr. Franklin Martin, (per)
Dr. Emma Wheat Gillmore,
Chairman Woman Physicians Committee, Council of National Defense Medical Section.

Those women physicians who are qualified for anesthetic service and who are competent to be intensively trained, are requested, at once to get in touch with

Dr. F. H. Mc Mechan, Sec'y.
Interstate Anesthetists, American Anesthetists,
Avon Lake, Ohio.

CONSERVATION OF PLATINUM THRU PHYSICIANS AND DENTISTS OF THE COUNTRY.

There is a great stringency in the platinum situation at this time, and it is necessary to employ every possible means to secure a supply. Lieut. Col. F. F. Simpson, Chief of Section of Medical Industry, War Industries Board, Washington, in view of the limited supply of platinum in the country and of the urgent demand for war purposes, requests that every doctor and dentist in the country go carefully over his instruments and pick out *every scrap of platinum* that is not absolutely essential to his work. These scraps, however small and in whatever condition, should reach Government sources without delay, through one of two channels: (a) They can be given to proper accredited representatives of the Red Cross who will shortly make a canvass for that purpose. (b) They may be sold to the Government thru any bank under the supervision of the Federal Reserve Board.

Such banks will receive and pay current prices for platinum.

It is recognized that certain dental and surgical instruments requiring platinum are necessary, and from time to time platinum is released for that purpose. It is hoped, however, that every physician and every dentist will use substitutes for platinum for such purposes wherever possible. *You are warned* against giving your scrap platinum to anyone who calls at your office without full assurance that that individual is authorized to represent the Red Cross in the matter. By giving this matter immediate attention the war program will be definitely aided.

MEDICAL NOTES

Additional Commissions. During the month the following names have been received of physicians commissioned for war service which have not been previously published in this journal:

OREGON.

Medical Reserve Corps, U. S. A.

Martzloff, K. H., Portland.
Matson, R. C., Portland.
Robb, J. O., Hillsboro.
Schenk, H. J., Westfall.
Watkins, R. E., Portland.

U. S. Naval Reserve Corps.

Hare, W. B., Portland.
Hayden, D. N., Eugene.
Hendershott, H. M., Portland.
Murphy, J. M., Portland

WASHINGTON.

Medical Reserve Corps, U. S. A.

Baldwin, L. B., Seattle.
Barteau, F., Rockford.
Davies, J. S., Tacoma.
Homeston, J. W., Taylor.
Keller, W. N., Steilacoom.
Lee, E. C., Seattle.
Longaker, F. A., Olympia.
Moffett, Lloyd, Yakima.
Quilliam, L. R., Seattle.
Riemcke, C. A., Yakima.
Runnalls, Thos., Orting.
Shuman, J. R., Sunnyside.
Simmons, W. R., Port Townsend.
Steele, J. F., Olympia.
Weichbrodt, I. A., Seattle.

U. S. Naval Reserve Corps.

Abraham, E. D., Seattle.
Hoff, Einar, Seattle.
Johnson, W. R., Chehalis.
Morris, M. J., Ellensburg.

With the Allies.

Drury, J. E., Wenatchee
Rees, F. W., Walla Walla.

IDAHO.

Medical Reserve Corps, U. S. A.

Anderson, Allen, Fruitland.
Blevins, D. L., Idaho Falls.
Henkle, C. K., Troy.
Kennett, G. H., Kellogg.
Lyle, J. M., Peck.
Roberts, E. N., Pocatello
Stewart, J. L., Boise.
Willson, H. L., Idaho Falls.

UTAH.

Medical Reserve Corps, U. S. A.

Beatty, T. B., Salt Lake City.
Bruckheimer, R. M., Salt Lake City.
Budge, E. S., Logan.
Christy, G. H., Vernal.
Colton, W. A., Salt Lake City.
Curtis, A. L., Payson.
Dorland, C. E., Devils Slide.
Estes, F. E., Standardville.
Felts, H. B., Salt Lake City.
Francke, J. M., Salt Lake City.
Goins, G. W., Tooele.
Hagan, J. W., Spanish Fork.
Hageman, Paul S., Bingham.
Hammond, E. D., Salt Lake City.
Hasler, W. T., Provo.
Hatch, F. F., Heber.
Hatch, H. R., Heber.
Hughes, E. M., Provo.
Kirtley, H. P., Salt Lake City.
Light, G. A., Salt Lake City.
Littell, J. C., Salt Lake City.
Lynch, Hardie, Salt Lake City.
MacNeil, B. C., White Rocks.
McHugh, F. M., Salt Lake City.
Murphy, E. R., Salt Lake City.
Musser, L. P., Magna.
Nelson, H. W., Ogden.
Peterson, F. L., Salt Lake City.
Smith, E. H., Ogden.
Vance, H. M., Pleasant Grove.
Weymiller, E. A., Brigham.
Wheeler, T. H., Salt Lake City.

OREGON.

Reconstruction Aides in Demand. The Surgeon General of the Army has requested the service of the entire class of 186 women who have recently graduated as reconstruction aides from Reed College, Portland. These women are prepared to assist the military hospitals in the restoration of functions of wounded soldiers by means of massage and remedial exercises. It is stated 1,500 more of these aides are needed. Reed college has a special department for educating women for this work.

Medical Merger to Be Adopted. The consolidation will be undertaken of the Health Boards of the city of Portland and Multnomah county. A committee has been appointed to work out the details and to make a survey of the health departments of the two bodies. It is stated that much money can be saved the taxpayers by this form of combination.

County Physician Appointed. Dr. H. R. Cliff, of Portland, has been appointed county physician by the commissioners, Multnomah county, to succeed Dr. H. F. McKay, deceased. Dr. O. A. Hess was appointed assistant physician. The situation was complicated by the offer of Dr. George Parish, city health officer, to perform the duties of county health officer gratuitously until the merger of the city and county health departments had been consummated.

Killed in Action. Dr. P. J. Keiser, of North Bend, is reported from France as killed in action. No details of the casualty have been received.

Central Willamette Medical Society held its semi-annual meeting at Brownsville, Sept. 7. About 60 physicians were reported in attendance from the counties of Lynn, Lane, Lincoln and Benton.

New City Health Officer. Dr. Joseph Myers has been appointed health officer at Albany, to succeed Dr. G. E. Rigg, who has entered army service.

Dr. J. O. Robb, of Hillsboro, who has served for some months as contract surgeon at Camp Lewis, has entered the Medical Reserve Corps.

Dr. R. R. Hamilton, of Klamath Falls, Captain, M. R. C., U. S. A., has been promoted to major.

Dr. T. W. Hester, of Newberg, has recently returned home after a period of study in Chicago.

WASHINGTON.

Location of Reconstruction Hospital. Word has gone out that the Government is to locate a big reconstruction hospital somewhere in the Pacific Northwest. Claimants for the location of the hospital are numerous and convincing arguments have been offered for sites in Spokane, Tacoma and Seattle and Portland. Even Soap Lake enthusiasts believe they have an ideal location. The supporters of Forts Wright, Worden and Lawton can prove convincingly that each has the most desirable qualifications. A decision in the matter will be expected soon.

Plans for a Big Hospital. The Girls Victory Carnival, held recently in Seattle, netted more than $100,000, one-half of which is to be devoted to the construction of an industrial hospital to supplement the hospital facilities of that city. Plans are proposed and discussed of using this with other funds for the construction of an industrial wing of a great hospital to be built on the University campus. The proposition for such a building has met with much favor, altho objections to that site have been offered. With this sum of money in hand a new hospital will doubtless be established somewhere in the near future.

New Hospital to Be Constructed Soon. Plans have been completed for the construction of the hospital at 16th and John, Seattle, under the supervision of Dr. J. W. Wilkins. It will be 72 by 34 feet, with a wing 34 by 34 feet. It will have all the improvements and appliances of a modern hospital. It will be constructed at a cost of about $35,000.

To Open New Hospital. The new Bremerton City Hospital is to be opened October 1. The building has been thoroly renovated and made over for hospital purposes. The cost of the hospital has been met by popular subscriptions from the citizens of Bremerton and adjacent towns.

Changes at Western Washington Hospital. Dr. W. N. Keller, for several years superintendent at the Western Washington Hospital at Steilicoom, has been commissioned major in the M. R. C. Dr. J B. Loughery, who has served as assistant will be in charge. Dr. Keller will take a three months' course in brain surgery in New York before being assigned to active duty.

Annex to Hospital. A large annex is to be built to the General Hospital at Port Angeles. It is to be 100 by 125 feet. This hospital is to receive the equipment from the Olympic Hospital which is to be discontinued. The addition is to accommodate soldiers sent to Clallam county under a government contract.

Health Officer for Whole County. It is proposed to consolidate the offices of health officers of Walla Walla County and City. By this means it is expected to secure a competent physician who will devote his whole time to county and city health affairs.

New Health Officer. Dr. R. D. Wilson has been placed in charge of the department of health of the city of Tacoma, following the resignation of Dr. E. A Layton, whose whole time will be devoted to the work of school physician.

Smallpox in County Jail. The county jail at Spokane has fallen under the ban of quarantine. Three cases of smallpox appeared in the institution, resulting in a wholesale vaccination of its more than fifty occupants.

Tabby Is Tabooed. The cat must take a back seat in Seattle. The city council has fixed a license of from $1 to $2.50 for each cat in the city. Otherwise they will be seized and passed on to the cat heaven. When the crisis came the cat had no friends. She was said to be the most insanitary of all pets and more destructive to game than any other animal. There seemed nobody to shed a tear at the passing of kitty.

Effective Typhoid Inoculation. The health record of Yakima showed but one case of typhoid during August and only 10 cases for the year, four of them originating outside of the city. This result has followed an inoculation campaign against typhoid.

Doctor on Torpedoed Vessel. Dr. J. A. Ensing, of Seattle, Captain in the British army, reached England a few weeks ago after a furlough of several months. He was on the English vessel sailing for east Africa which was recently torpedoed off the British Isles.

Wounded by Schrapnel. Dr. F. J. Cullen, of Napavine, whose injury was mentioned last month, was wounded by schrapnel while on service in France. Several other men were killed by the same explosion.

Returned to Duty. Major J. G. Byrne, of Spokane, who served in France during the past year, was returned to the United States on account of a serious illness. He has recovered after treatment at Letterman Hospital, San Francisco, and has been ordered to Coast Defense duty on Puget Sound.

Dr. L. R. Quilliam, of Seattle, who has been commissioned First Lieut., M. R. C., has been ordered to the Neurological Institute, New York, for work in brain surgery.

Dr. E. C. Lee, of Seattle, who served with the British army during 1915, has been commissioned Captain, M. R. C., U. S. A.

Dr. W. W. Cox, of Monroe, who is stationed at Vancouver, has been promoted from lieutenant to captain.

Dr. G. P. Pool, of Spokane, has located at Puyallup to take the practice of Dr. Thos. Runnalds who has entered army service.

Dr. R. E. Waitsburg, who discontinued practice six months ago on account of ill health, has again resumed practice.

Dr. F. W. Rees, of Walla Walla, who has been serving in France for some time in the Red Cross civil service, has been transferred to the military Red Cross work.

Dr. H. E. Allen, of Seattle, with Base Hospital No. 50 in France, has been promoted from captain to major.

Dr. W. B. Penny, of Tacoma, has been promoted from the rank of lieutenant to that of captain.

Dr. F. P. Gardner, of Seattle, captain at the Base Hospital, Camp Lewis, has been promoted to major.

Dr. F. J. Bickford, of Centralia, who has served as lieutenant, has been promoted to captain. He is stationed at Everett in charge of the men in the spruce division of that section.

Dr. C. Gilcrist, who practiced for many years in Wenatchee, has returned to that city for practice.

Medical Weddings. Dr. E. L. Archer, of Pullman, was married to Miss Blanche Gilbraith of that city at Seattle on August 1. Dr. T. R. Evans, of Seattle, was married to Miss Louise McIntyre, of Spokane, in Portland August 23.

OBITUARIES.

Dr. W. B. Safley died at Livingston, Idaho, September 5. He was born in Iowa in 1858. He attended local schools and graduated in medicine from the University of Iowa in 1884. For several years he practiced in Iowa and settled in Bozeman, Ida., in 1892. Later he returned for practice to Iowa and later moved to Montana and Idaho.

CORRESPONDENCE

CONCERNING BASE HOSPITAL UNIT NO. 50.

Dear Doctor:

I joined the Unit at Merritt the last minute. We had a dandy trip over on a fine, big boat, a nice trip thru England and then France. Had two nights in Paris; we don't count the days in that town. It is sure some lively place, but awful hard to get to. Have to have orders or a permit from Gen. Pershing himself to visit there, so we were doubly lucky.

We arrived here before the enlisted men by about three days and have now been here two weeks. This is a Hospital Center and eventually will comprise 22 hospital units like ours, with accommodations for 44,000 patients. This, with the staff and help, will make quite a city. We were the second Unit to arrive.

The buildings are of tile, one story and all new. In fact, we have to move around to keep out of the way of the workmen. After about a week here we received our first batch of patients. They were easy on us at first, giving us only sitters, so-called, and medical cases, but at that there are some pretty sick men and some pretty badly wounded.

The water was not connected in the bathhouse when they arrived, but we put them thru the receiving office, bath and delousing and into the classified wards at the rate of one man every thirty seconds.

Everything is going fine but it seems to take a long time for us to get equipment. No x-ray yet and have heard our requisition for a B. H. outfit at this time was cancelled and we are to have only a bedside unit, something on the order of the suitcase apparatus. It really doesn't matter, as there is no current in yet for the big machine. The other unit has its big outfit and is installing it but, of course, cannot use it when it is installed. Their x-ray man never did x-ray work before, so I am not worrying about holding up my end with him. We have received mail for my assistant, so he is probably on the way. If I have plenty of help and only one small machine I should have a fairly easy time for a while.

They are making up some operating teams and a small mobile unit for duty at the front and I hope to get a chance to do my share up there for a time at least. At present we are a little short of our regular staff and the nurses have not yet arrived, so have been put in charge of a medical ward of 52 beds (mostly gastrointestinal cases). Our staff is being slowly augmented. Dr. Mattice, the eye man, arrived today. We think our nurses are on the way.

The Surgeon General's office told Maj. Eagleson when he was in Washington that it was too late to order Dr. Swift with us, but two of our men were ordered to join us after that date. They also told him Dr. Allen was not available for us, when he had been waiting in New York for several weeks. So no telling when Dr. Swift will get here. We all feel happy to feel we are finally doing what we came in to the war to do, even tho it isn't exactly in our line. We can see daylight ahead anyway. It really is remarkable but among the twenty-eight doctors there has not yet been the least friction. That wouldn't happen in civil life.

One of my duties is to censor the mail of the patients in my ward and one gets a lot of first hand stories of the front. Allowing for considerable exaggeration by the boys in their letters written for home consumption, it must be h—— up front and I sure want to see it with my own eyes. Many of them think, because they made the Huns run on their particular sector that the war cannot last more than six months.

This place is south of Paris in the grape and wine country. Beautiful, picturesque scenery and villages, just as peaceful as before the war. Have bought a secondhand bicycle for $45 and take some rides to nearby towns over the most beautiful roads, shaded on either side by a double row of shade trees. The French are very friendly and we have lots of fun trying to learn the lingo. Am going to try to get to talk enough to make myself understood.

We get the Paris edition of N. Y. Herald and Chicago Tribune. Also Stars and Stripes (weekly) and some Parisian picture magazines. We are fitting up a small club room. There is also a big recreation hall for the patients we intend to steal for dances when our nurses come. The weather is fine, typically "sunny France." I don't blame the French for loving their country as I am in love with it myself.

H. B. Thompson,
Seattle, Wash.

Hospital Center, France.
Aug. 19, 1918.

REPORTS OF SOCIETY MEETINGS

WASHINGTON STATE MEDICAL ASSOCIATION.

MINUTES OF THE TWENTY-NINTH ANNUAL SESSION OF HE WASHINGTON STATE MEDICAL ASSOCIATION, SEATTLE, WASH., JULY 17-19, 1918.

The twenty-ninth annual session of the Washington State Medical Association was convened in the Elks Club, Seattle, Washington, July 17th, 1918.

HOUSE OF DELEGATES.

First Business Session.

10:30 a. m.

The first meeting of the House of Delegates was called to order by the President, Dr. G. M. Horton, at 10:30 a. m. On calling the roll a quorum was found present, twenty delegates answering to their names. The minutes of the last session were not read but were ordered approved as published.

ANNUAL REPORT OF SECRETARY-TREASURER

Financial Report (Abstract)

Exhibit A—Association Fund

Balance to credit this fund Jan. 1, 1917	$1,514.21
Revenue from membership dues for fiscal year	2,508.00
Total	$4,022.21
Disbursements during fiscal year	2,406.06
Balance on hand Jan. 1, 1918	$1,616.15

Exhibit B—Defense Fund

Balance to credit this fund Jan. 1, 1917	$2,429.69
Revenue from subscriptions during fiscal year	3,930.00
Total	$6,359.69
Disbursements during fiscal year	4,275.39
Balance on hand Jan. 1, 1918	$2,084.30

Exhibit C—Recapitulation

Balance Jan. 1, 1917	$3,943.90
Receipts during fiscal year	6,438.00
Total	$10,381.90
Disbursements during fiscal year	6,681.45
Balance on hand January 1, 1918	$3,700.45

Supplementary report covering the period from January 1, 1918 to July 1, 1918:

Exhibit A—Association Fund

Balance to credit this fund Jan. 1, 1918	$1,616.15
Revenue from membership dues	1,860.00
Total	$3,476.15
Disbursements	1,303.35
	$2,172.80

Exhibit B—Defense Fund

Balance to credit this fund Jan. 1, 1918	$2,084.30
Revenue from subscriptions	1,635.60
Total	$3,719.90
Disbursements	2,180.80
Balance on hand July 1, 1918	$1,539.10

Exhibit C—Recapitulation

Balance Jan. 1, 1918	$3,700.45
Receipts to July 1, 1918	3,495.60
Total	$7,196.05
Disbursements to July 1, 1918	3,484.15
Balance on hand July 1, 1918	$3,711.90

Medical Population and Membership.

Total number of physicians (Enumeration of 7-1-18. Includes all those claiming this state as a place of residence, but does not include medical officers of the regular Army and Navy)	1,564
Physicians in the Medical Reserve of our Army and Navy, with the Red Cross and in the forces of our Allies. (List does not include 3 deaths, 7 resignations and 11 discharges on account of physical disabilities)	367
Total number of members in State Association for complete year of 1917	865

Altho less than 10 per cent. of the physicians of this state have never belonged to the Association, our official membership is as above stated for the reason that the by-laws and the A. M. A. provide that members must be in good standing or they are not members. Officially we have no delinquent members but practically we do not strictly enforce the regulations, as we find that many of these delinquents return to the fold and at least pay the current dues. Much of this is due to negligence both on the part of the member and his county society.

Of the 39 counties in this state 15 have active and fairly efficient county medical societies, 6 have societies in name only and the remaining 18 have no local organizations. In some of the smaller counties it is practically impossible to maintain a county society and in some of them the local physicians hold membership in nearby counties. It must be said that in point of membership we make a miserable showing and we are in urgent need of an organizer. The A. M. A. promised us one but unfortunately he died on the way out and we have been unable to obtain another one.

At the present time we are carrying some 233 members without the payment of annual dues. Some of these are Fellows who have retired from active practice but most of them on account of their service in the Medical Reserve Corps. We think it only just for the Association to remit the dues of those members in active war service.

War Service.

We have promptly served our government in all ways that have been indicated to us and we have invited our government to freely use our organization. Our officers and members have freely given their services to the various advisory, examination and exemption boards. We have made and submitted to the government officials a complete medical census of this state and a great quantity of statistical information. We have sent many men to the colors (only about 5 per cent. being non-members) and undoubtedly many more will enter the service. Individually we have financially supported our government to the extent of our ability and as an organization have purchased $500.00 of the last Liberty Loan.

Medical Legislation.

We have supported the various public health measures introduced in the Federal Congress; particularly the Owen and Dyer Bills, giving increased rank for the medical corps. In this state there has been no change in legislative matters since the last session of the legislature. At the coming session the various cults will doubtless seek increased recognition and as few medical men will be able to devote any considerable time to political matters they may succeed. However, our unselfish efforts and service should count heavily against them. For a detailed account of legislative matters the report of last year is again submitted. There has been no charge since this report was published.

Legal Defense.

To date we have handled 147 cases and have at the present time 12 cases pending. Proportionately we annually handle more cases than any other state medical association. Of course it is not to our credit that we have so many cases but we can congratulate ourselves upon the fact that so far no member defended by us has suffered any material financial loss. Winning 100 per cent. of cases has been equaled by other state medical associations but no commercial company can come anywhere near this record.

During the last fiscal year 393 members subscribed for our defense (about 45 per cent. of our active membership). This year we will not do as well, as many of our subscribers have entered the medical reserve corps and it will be difficult to obtain many new members without a personal canvass. We expected to make such a canvass but our man died and we could not obtain another suitable to the business.

We deserve better support than we have been given. We have given complete defense in each case; we have diminished the number of cases and the cost of insurance and many companies admit that without our organized assistance insurance could only be offered, if at all, at prohibitive rates. Should the Association discontinue its defense department some of our members who have not supported it would be disagreeably surprised. However, we have sufficient funds on hand to cover outstanding obligations and with liberal support may even hope to reduce the amount of our premium.

Deceased Members.

I regret to have to report the decease of the following members and suggest that suitable action be taken:

Dr. M. C. Balabanoff, of Tacoma. A fellow of this association and a graduate of the Woman's Medical College of New York in 1881. Deceased, 12-14-17.

Dr. J. B. Burns, of Yakima. A graduate of the University of Buffalo in 1878. Deceased 10-6-17.

Dr. A. DeY. Green, of Prosser. A former treasurer of this association and captain M. R. C. U. S. A. A graduate of the Georgetown University in 1901. Deceased 11-25-17.

Dr. R. C. Hill, of Irondale. Captain M. R. C. U. S. A. A graduate of the Cincinnati Medical College in 1892 and of the McGill University in 1906. Deceased 4-18-18.

Dr. C. E. Laws, of Tacoma. Lieutenant M. R. C. U S. A. A graduate of the Ohio Medical College in 1899. Deceased 4-21-18.

Dr. F. F. Markey, of Seattle. A graduate of the University of Illinois in 1899. Deceased 8-17-17.

Dr. O. T. Melde, of Spokane. A graduate of the Physio-Medical College of Indiana in 1890. Deceased 11-16-17.

Dr. David Rosser, of Yakima. A Fellow of this association and a graduate of Miami in 1875. Deceased 4-22-18.

Dr. W. R. Scott, of Seattle. A graduate of Jefferson in 1906. Deceased 10-12-17.

Dr. E. A. Trommald, of Tacoma. A graduate of the Cooper Medical College in 1896. Deceased 2-20-18. Respectfully submitted,

(Signed) C. H. Thomson, Secy-Treas.

On motion the report was accepted and ordered placed on file.

In discussing legal defense Dr. Gove thought that the county secretaries were able and willing to assist in a campaign to obtain subscribers and moved that the state secretary supply them with the necessary data. The motion was adopted.

Dr. McCornack made an informal report for the War Relief Committee and gave in detail the excellent work of the Spokane Society. The report was accepted.

The state of the Association was discussed and the urgent need of better organization brought out. Dr. Marshall moved that immediate steps be taken to increase the membership and general efficiency of the association and that the president appoint a representative to take charge of this work. The motion was adopted.

Dr. Morrison moved that we go on record as being opposed to the so-called Hospital Associations. The motion was adopted.

The question of fees for life insurance examinations was taken up and discussed. It was the opinion of the House that the interests of the public were best served by adequate examinations and that such examinations demanded a reasonable fee. Dr. Grosvenor moved that we consider $5.00 as a reasonable fee for all life insurance examinations; that we oppose any and all reductions and that the component societies be notified of this action. The motion was adopted.

Legislative questions were taken up and discussed to some length. Not arriving at any definate conclusion the whole matter was referred to the committee on medical legislation and public policy for future action.

Dr. McCornack moved that members in good standing on entering active war service shall have their annual dues remitted for the length of the war and for one year thereafter. The motion was adopted.

The House then adjourned until 4:30 p. m.

Second Business Session.

4:30 p. m.

A quorum being present the House of Delegates was called to order by President Horton at 4:30 p. m.

The following officers were duly elected:

President—Dr. H. P. Marshall, Spokane.

President-Elect—Dr. S. W. Mowers, Tacoma.

First Vice-President—Dr. Don Palmer, Seattle.

Second Vice-President—Dr. T. H. Grosvenor, Wenatchee.

Secretary-Treasurer—Dr. C. H. Thomson, Seattle, (term expires 1919).

Assistant Secretary-Treasurer—Dr. J. H. O'Shea, Spokane, 1919.

Trustees, First District—Dr. H. E. Cleveland, Burlington, (term expires 1919); Dr. M. F. Perkins, Tacoma, 1919; Dr. R. J. O'Shea, Seattle, 1920; Dr. H. D. Brown, Mt. Vernon, 1920.

Trustees, Second District—Dr. C. J. Lynch, Yakima, 1919; Dr. P. D. McCornack, Spokane, 1919; Dr. F. Epplen, Spokane, 1920; Dr. N. M. Baker, Spokane, 1920.

Journal Trustees—Dr. Arthur Burns, Seattle, 1919; Dr. J. B. Manning, Seattle, 1919; Dr. J. R. Brown, Tacoma, 1919.

Delegates to A. M. A.—Dr. H. H. McCarthy, Spokane, 1919; Dr. C. S. Kalb, Spokane (Alt.), 1919; Dr. D. E. McGillivray, Port Angeles, 1920; Dr. F. Culp, Wenatchee, (Alt.), 1920.

The next place of meeting having been previously selected at Spokane, the twelfth House of Delegates then adjourned sine die.

Respectfully submitted,

C. H. Thomson, M. D.,

Secretary-Treasurer.

GENERAL ASSEMBLY.

July 17, 1918, 2:00 p. m.

The first general assembly was called to order by the president, Dr. G. M. Horton, at the Elks Club, Seattle, Washington, at 2:00 p. m., July 17, 1918. The following program was presented:

Presidential Addresses.

Dr. W. F. Smith, Boise, Ida.

Dr. E. E. Straw, Marshfield, Ore.

Dr. G. M. Horton, Seattle, Wash.

Military and Civilian Venereal Problems.

Lt. Com. C. F. Ely, U. S. N., Bremerton, Wash.

Maj. I. L. McGlasson, M. R. C., Camp Lewis, Wash.

Capt. A. H. Peacock, M. R. C., Camp Lewis, Wash.

Lieut. G. S. Whiteside, U. S. N. R. F., Portland, Ore.

Dr. B. J. Lloyd, U. S. P. H. S., Bremerton, Wash.

Dr. J. S. McBride, Com. Health, Seattle.

Dr. W. R. Jones, Seattle.

The following resolution was adopted:

RESOLVED, That it is the sense of this body that the Congress of the United States should enact a measure designed to repress the social evil and to exterminate venereal diseases, attention being invited to the two bills now in committee, namely, H. R. No. 12177, introduced by Congressman John F. Miller of this State, and Senate Bill No. ...., introduced by Senator Chamberlain, of Oregon, and we recommend that in the framing of such legislation due consideration be given to concentration of effort and permanent nature of the work.

RESOLVED, Further, That we favor adequate legislation by the State of Washington in regard to these evils.

At 8 p. m. an informal smoker was tendered the visiting members at the Elks Club.

July 18, 9:00 a. m.

A National Safety Demands Early Recognition of Parabronchial Involvements in Children.

Dr. E. A. Pierce, Portland, Ore.

Infantile Pyloric Stenosis.

Dr. Albert Straus, Chicago, Illinois. (Paper read by Dr. H. P. Marshall, Spokane, Wash.)

Discussion by Dr. R. E. McKechnie, Vancouver, B. C.

Chronic Ulcerative Colitis.

Dr. A. H. Logan, Rochester, Minnesota.

2 p. m.

Neuro-Psychiatric Problems Encountered by Exemption and Advisory Boards of Interest to General Practitioners.

Dr. Wm. House, Portland, Ore.

Intestinal Autointoxication From a New Point of View.

Dr. W. C. Alvarez, San Francisco, California.

A Biological Conception of Neoplasms and Its Clinical Significance (Lantern Slide Demonstrations).

Dr. W. C. MacCarty, Rochester, Minnesota.

8:00 p. m.

The Medical Reserve Corps. Who Shall Go and Who Shall Remain at Home.

Dr. Franklin Martin, Chairman Medical Section, Council of National Defense.

Surgical Operations Demonstrated by Moving Pictures.

Seattle Surgical Society.

After presenting the newly elected officers the Fourth Tri-State Meeting adjourned to spend the following day at Camp Lewis.

On July 19 the members and their families spent an instructive and enjoyable day visiting the cantonment at Camp Lewis. At 6:30 p. m. the King County Medical Society gave an informal dinner dance at the Tacoma Golf and Country Club.

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BOOK REVIEWS

Surgical Treatment. A Practical Treatise on the Therapy of Surgical Diseases for the Use of Practitioners and Students of Surgery. By James Peter Warbasse, M. D., Formerly Attending Surgeon Methodist Episcopal Hospital, Brooklyn. In Three Volumes with 2400 Illustrations. Vol. I. 947 pp. W. B. Saunders Co., Philadelphia and London, 1918.

This work is a classic and should be in the possession of every practitioner. It is not only valuable as a guide to the operative surgeon, but stands out as a sign post, pointing the way to the general practitioner or the internist. Three things particularly appeal. (1) The elaborate profusion of illustrations of an eminently practical nature, often speaking volumes in themselves. In this respect the author seems to have escaped the well traveled road, and studiously avoided the stereotyped and conventional illustrations, and strictly applied the same to those involving the more modern technical procedures, more especially those occurring in the literature of the last four or five years. (2) At all times he has had the courage of his convictions in fearlessly commenting upon or recommending certain technical procedures. (3) He has taken it for granted that "the surgeon who turns to these pages for help is familiar with the fundamental principles of surgical pathology and diagnosis," thereby eliminating a vast amount of confusing verbiage, arriving at the subject at hand by the shortest route possible and dwelling for the greatest length strictly upon the modern therapeutic surgical procedure for the relief of the specific pathologic condition. If this volume is a criterion for the two which are to follow, the complete work will become a mile stone on the road of surgical progress. It is an invaluable addition to any library. SHAW.

Surgical Applied Anatomy. By Sir Frederick Treves, Bart., G. C. V. O., C. B., Ll. D., F. R. C. S., Eng. Sergeant Surgeon to H. M., the King, etc. Seventh Edition, Revised by Arthur Keith, M. D., Ll. D., Aber., F. R. C. S., Eng., F. R. S. and W. Colin Mackenzie, M. D., Melb., F. R. C. S., Edin., F. R. S. E., 702 pp. Illustrated with 153 figures including 74 in color. Lea & Febiger, Philadelphia and New York.

This book does not materially differ in its anatomic descriptions from any of the previous editions, altho several revisions and additions have been made. It is remarkably complete in its anatomic details for a volume so small and, as a ready anatomicosurgical reference, occupies the same valuable place that it has held for the past thirty-five years. The work is intended to refresh one's anatomic recollections and to draw a close practical application to daily surgical experiences. As a consequence of surgical advancement and the inclusion of accepted modern methods of treatment, this edition has been brought thoroly up-to-date. Much has been added of the newer orthopedic procedures, together with many new colored illustrations. Freed of all unnecessary descriptions, accurate and practical in its anatomic facts, it serves as a most useful guide to both student and practicing physician.

DUDLEY.

Surgical and War Nursing. By A. H. Barkley, M. D., (Hon.), M. C., F. A. C. S., Lecturer at Good Samaritan Hospital Training School for Nurses, Lexington, Ky., etc.; 208 pp. with 79 Illustrations, $1.75. C. V. Mosby Co., St. Louis, 1918.

In this little book the author has very successfully compiled the knowledge of surgery which a nurse is expected to know. These essentials are clearly brought out and liberally illustrated, whenever possible. Also there is a chapter on war surgery from a nurse's standpoint, which brings it up to date. This book will be found of great practical value for nurses both in training and after graduation.

JOHANSON.

The Hodgen Wire Cradle Extension Suspension Splint. By Frank G. Nifong, M. D., F. A. C. S. With Introduction by Harvey G. Mudd, M. D., F. A. C. S. $3.00, 160 pages. C. V. Mosby Co., St. Louis, 1918.

This little book, written in simple, easy style, is profusely illustrated with cuts of appliances in the war zone and in civil practice for treatment of fractures of the long bones, particularly of the femur. The author has given a clear definition of the principles of extension-suspension which the Hodgen splint, when properly applied, carries out. He points out the sources of error in its application which have led to the disuse of such a simple appliance and the taking up of others more complicated and less efficient. This book is well worth a place in the library of any surgeon doing fracture work. McLOUGHLIN.

Military Surgery of the Zone of the Advance. By George de Tarnowsky, M. D., F. A. C. S., Surgeon to Cook County and Ravenswood Hospital, Chicago, etc. 330 pp. Illustrated, $1.50. Lea & Febiger, Philadelphia and New York, 1918.

This book is a very clear resumé of recent advances in military surgery. The author reviews the organization of the medical forces overseas, describing the lines of communications from the first aid dressing station to the base hospital. The nature of wounds caused by different projectiles and their bacteriology are described. Regional surgery is taken up in detail under separate chapters and roentgenology in war surgery is given rather fully. A chapter is also devoted to the Carrel-Dakin technic. It will prove a most valuable work for the Mdical Officer in active duty. LEE.

NORTHWEST MEDICINE

The Journal of the State Medical Associations of Oregon, Washington, Idaho and Utah
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Vol. XVII. NOVEMBER, 1918. No. 11.

ADDRESS

MEDICAL INTROSPECTION.*

By Fred Stauffer, M. D.

SALT LAKE CITY.

I deem it fitting that we pause for a moment from the contemplation of our regular program and, like our friends in the business world, take stock of our assets and liabilities, to ascertain, if we may, some of the potent factors which have led our profession to the high pinnacle of success which it has attained; and, also, to study the symptoms which reveal the hidden reefs, upon which our onward progress may be wrecked. Such introspection and retrospection seem to me particularly fitting at this time, when the social and economic systems of the civilized world are undergoing the most colossal upheaval in its history; and when the altruistic forces of democracy are allied against the powers of militarism and autocracy in order to preserve unto us that personal and political freedom, without which our profession must revert back to that state of superstition and mysticism, from which it has recently emerged from the dark centuries of the middle ages.

It requires but casual research into human nature to learn that man in all ages, wherever found under like conditions of education and enlightenment, converges to a common point of similarity. As Dr. Garrison, in the "History of Medicine" tersely puts it, "the collective investigations of historians, ethnologists, archeologists, philologists and sociologists reveal the singular fact that the myths, superstitions, laws and social customs of primitive peoples all over the earth, as well as the cruder aspects of religion, converge inevitably to a common point of similarity or identity; that the civilized mind differs from the savage mind only in respect of higher evolutionary development; human races and social customs have changed only as they become more highly specialized; the heart of man remains the same."

Taking this quotation as a text, may we not with profit briefly review the origin and progress of the healing art, as it has been transmitted thru the fragments of history and traditions that have been preserved to us thru the dark and misty past. Ever since our first parents were cast out of the garden of Eden and the earth was cursed to them and their posterity, mankind has been subject to disease and to final separation of the spirit from the body, known as death. And from that time to the present day man has deemed it his prerogative to combat disease, and by all the means in his power to prolong life and delay final dissolution of the body.

The earliest recorded theories as to causation and cure of disease were associated with religion and, indeed, the practice of medicine among primitive races was entrusted largely to the priests and leaders in religious thought. Some of the earliest theories of disease are typified in the Shamanism, which taught that there is one "Great Spirit" which rules the universe, with lesser divinities and demons subordinated. Shamanism also taught that the spirit of man is capable of independent existence outside of the body after death and that disease was brought on thru the influence of demons and malevolent spirits of departed dead.

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* President's address, read before Twenty-fourth Annual Meeting of Utah State Medical Association, Salt Lake City, Utah, Sept. 10-11, 1918.

This belief as to causation of disease naturally led to witchcraft and sorcery for therapeutic redress. These early psychotherapeutic healers attired themselves in hideous costumes, such as skins of voracious animals, and by means of vociferous incantations assumed to cure their patients by overawing the unclean spirits which caused disease by their presence in or about the person of the sick. These early guardians of health undertook not only the cure of disease but practiced prophylaxis by dealing out charms and fetishes of every conceivable form, from a lion's tooth to precious stones. These charms were worn on the body of the individual whom they were to protect against disease.

As time went on, it was natural that some special talent for herb doctoring, bone setting and surgery should be developed and employed as a special means of livelihood. At an early period of Egyptian and Babylonian history, these doctors became so numerous that there was a specialist, not only for every organ of the body, but for every separate disease of every organ. To the Chaldean and Babylonian astrology may be traced many of the superstitions regarding number lore. The idea that certain numbers can be sacred or malignant is of Accadian origin and connected with Chaldean astrology. Of mystic numbers three or multiple of three is the most popular for luck, good or bad; seven or one of its multiples is supposed to have supernatural powers.

If time would permit it would be interesting to go into detail of the beliefs and practices of primitive man with reference to cause and cure of disease. The outstanding fact in all that has been preserved to us in history is that man must have derived some good in the application of all these crude practices for the alleviation of disease. If this be true, would it be profitable to us in the presence of an ever increasing diversity of cults and cures, to know the secret of success of such diverse and crude methods as obtained abong primitive races? I think that it would and this thought brings me to the theory which I wish to call to your attention.

Whether this theory can at this time be proved by scientific research or not, it is the only one which explains many of the phenomena in the life of man, and which can account for the good results of the varied cults practiced in the healing art. I refer to the belief which is clearly set forth in the "Good Book" that man is a dual creature, made up of an organized intelligent spirit capable of independent existence and that, thru a mystic union of this spiritual being with the body, man becomes a living soul. If one would thoroly understand the phenomena of human existence, it would be as fallacious to ignore the powers of the physical organism as to deny the existence of the spirit.

This doctrine is not new to me, as I was taught it as an essential tenet of my religion long before I undertook to study the complexities of the physical being. I am aware that I am treading on ground that has no well beaten paths in the scientific world and that I may be classed among the dreamers, until the medical profession gives the subject more serious thought.

In June, 1907, Dr. G. C. Savage, of Nashville, Tenn., in his chairman's address before the ophthalmologic section of the A. M. A., took as his text "the duality of man," in which he proved to my mind on a scientific basis the truth of this theory.

Dr. Savage was prompted to write on that subject because Mr. Gilder, of Philadelphia, editor of the Century Magazine at that time, urged the establishment of an institute for the investigation of faith cure and other treatment not recognized by the medical profession. Dr. Savage contended that Gilder's suggestions should not be passed over lightly, "for such things," says he, "should be solved and that too by medical men." He says that "if the solution is ever found, it must come from the study of man as a dual creature, spirit and matter."

As Dr. Savage has so tersely stated the ideas which I wish to convey, I shall quote largely from his address. He says "thru the nervous system the mind is in relationship with every part and organ of the body; and when the body is undisturbed by deformity or the germs of disease, and is not weakened by the wear of time, the mind in some one of its faculties controls perfectly thru the nervous system the function of every organ."

According to the neurone theory of Waldeyer, the nervous system is composed of two systems of neurones. "The neurone is defined as the central cell with its dendrites, the oxone with its collateral branch, and the terminal organ or cell of the axone." Nervous energy has been named "neuricity." It is certain that neuricity always runs from the peripheral end organ to the central cell of the afferent neurone, and from the central nerve cell to the peripheral end organ of the efferent neurone."

It may never be known just how neuricity is generated, but the neurone must be endowed with power that enables it to take materials from the blood in which it is immersed and by chemical action generate neuricity. "The neurone must also be empowered to store nerve force, for it travels along the axone only when a proper agent has acted on the generating storage cell in such a way as to discharge it."

The central cells of both afferent and efferent neurones are arranged into groups in the brain and are known as motor and sensory areas; all of the motor and sensory areas combined utilize only one-third of the cerebral cortex. The remaining two-thirds is composed of cells whose axones connect with other groups in the cortex. These areas are neither sensory nor motor and are called the "silent areas." "It is presumed that the cells of these silent areas are used by the higher faculties of the mind, such as memory, imagination, reason, reflection and judgment, and the emotions, joy, sorrow, love, hate, hope and ambition."

"The action of the mental faculties on the cells of the silent areas depends, in some way or other, on excitation of afferent neurones. The mental processes thus generated are perfected by activity of the cells in the silent areas, but can manifest their workings only thru efferent neurones. The afferent neurones act on the mind and acquaint it with the physical world; the mind in some one of its faculties acts on the efferent neurones and thru them acquaints the physical world with its powers."

"The stimulus of the afferent neurone is physical, as light, sound waves, heat and chemical and mechanical irritants. The stimulus of the efferent neurone, whether those that develop locomotion, excite secretion, control circulation and respiration or produce speech, is the mind in some one of its many faculties."

The materialist must explain the phenomena of life as reflex in character, in other words, that the efferent current is transformed afferent current. connection with the efferent neurones, and that the efferent current is transformed afferent current, "Such a view would make of man a mere machine, incapable of being set in motion except by external influences either mechanical or chemical." This theory no one now believes.

"The second theory explains the nervous phenomena by declaring that dendrites or collateral branches connect the afferent with efferent neurones. If the neuritic current uninfluenced forced the contact, every afferent current would immediately excite an efferent current and this second theory would be no better than the first."

"If contact is necessary in order that there be any efferent current of neuricity, it must be made thru the mind or, more properly, the spirit. Man is responsible to his fellow man and his God only because his spirit thru his nervous system has been given control of his body."

"Therefore the theory is that the mind receives impressions thru the afferent neurones and it sends out impulses to the various organs and parts of the body thru the efferent neurone. The purpose of the afferent currents of neuricity is to arouse some faculty of the mind, while the efferent current is set free by some faculty of the mind for the purpose of exciting into action some organ or part of the body. Afferent and efferent currents are not transformable the one into the other, and the two sets of neurones are related only thru the mind."

"It must be clear that, if there is spirit power that presides over every organ of the body, over action of one faculty of the mind may cripple one or more other faculties, hence disturbance of functions over which they preside. These disturbances, functional at first, if oft repeated or long continued, will bring structural changes. Mental efforts, conscious or unconscious, will be made to right these errors, and if properly directed should succeed. If mental states alone disturb organs in the performance of their functions then a change in the mental state might correct these errors."

If human ills were all functional or imaginary then they could probably all be cured through psychotherapy, as claimed by the Christian Scientist, but the human body has thousands of foes in the shape of disease germs which are ever ready to enter the body on their missions of destruction, and as they enter the body, the mind is made cognizant of their presence thru the afferent neurones and immediately the biochemical laboratories within the body under the control of the mind are set to work to manufacture antidotes in the shape of antitoxins or antibodies, and unless the invading germs are too virulent or in too large numbers, the body is capable of coping with the disease and restoring the normal equilibrium.

"The individual's mind controls these laboratories within unconsciously, but there is no doubt but by conscious effort of the mind these organs can be stimulated to greater action and thus throw the balance of power against the invading germs."

The mind of man from time immemorial has been active in extracting from various external sources medicinal agents that, when properly administered, will aid the products of nature's laboratories within, in the destruction of germs and their toxins. Under trained hands these external laboratories of today are producing agents that are as specific against disease and more potent than the products of the internal laboratories, to-wit, the diphtheria antitoxins and the various bacterins and autogenous vaccines.

Dr. Savage closes his address as follows: "When so much good can come from without, how absurd are the Eddyites and others of like beliefs in their outcry against the medical profession." "The grain of truth which they hold is the fact that the mind can influence the body, but with that grain of truth there is a ton of error." "On the other hand, the medical man should not loose his grasp on the truth that the human being is a 'dual creature,' spirit and matter, and that the spirit power can influence, thru the nervous system, itself material, the organs of the physical body." This theory that man is a dual creature, tho not generally accepted as proved by science, is nevertheless not controverted by any scientific law.

Charcot is said to have been guided almost entirely by his favorite maxim (from Coleredge) that "The best inspirer of hope is the best physician." Indeed, in this aphorism may be found the kernel of truth which has given a measure of success to the exponents of the most diverse and preposterous cults among the primitive races, as well as among the people of the present day. If this principle is capable of doing good when mixed with so much error, how much more potent for good would it be if properly utilized by the skilled physician who has a thoro knowledge of the physical laws underlying conditions of health and disease.

Therefore, in summarizing the resources and liabilities of the medical profession, let us put to the credit side of the ledger the wonderful progress that has been made in the study of the physical being in its minutest detail from the embryonic single cell until it has developed into the most complex of organisms known, viz, mature man; while to the debit side we must place our utter inability to comprehend the principle which makes a particle of protoplasam under certain conditions viable and capable of increasing and multiplying, while the same particle, after a change known as death has overtaken it, tho not changed in structure nor chemical composition, loses this power to proliferate.

Again, to the debit side must be placed our failure to cure many kinds of diseases which present themselves for treatment; and that we are unable to prevent the final dissolution of the body, known as death.

But in so far as we fail to cure all curable diseases, because we, thru our ultra scientific research into the physical and biochemical processes, fail to grasp that higher power which the spirit of man exercises over his bodily functions, then we must place this failure to the debit side of the ledger and must stand aside and look with chagrin upon the Christian Scientist, who, like the sorcerer of old, with his atom of truth breaks thru our lines, invades the ground of our materialistic fields and, with utter disregard born of ignorance, tramples under foot the scientific truths which have been gradually accumulating since the time of Hippocrates, who is known as the father of scientific medicine.

On the other hand, if we in the regular profession scoff at or disregard the value of such potent agents as electricity, massage, hydro- and mechanotherapy, then we open the doors to the charlatan who, without knowledge of any of the processes underlying disease, assumes to cure all manner of afflictions from appendicitis to toothache by pouncing upon the spinal column of his victim, as is exemplified in the chiropractor and other mechanotherapists of today.

Does it not seem strange that these illicit cults should flourish in the light of our modern civilization? Does not the fact that they do flourish proclaim that we are not utilizing all the useful agencies toward the cure of disease?

This is an age of specialism and in the regular profession there should be specialists in the use of all the mechanical agents, such as heat, light, electricity, etc. And if so, what should we expect of a specialist? I should say that a person to deserve the title of specialist should have a comprehensive knowledge of anatomy, physiology and general pathology, and besides these should possess minute understanding of some special organ and its diseases, or he should have detailed knowledge in the use of some special therapeutic agent, such as heat, light, electricity, etc., and above all should have a comprehensive knowledge of the psychologic processes which obviously play an important part in restoring to normal balance the disturbed physical processes which constitute disease.

When the medical profession avails itself of trained specialists in all these branches, there will be but little room for the charlatan who, with his "grain of truth and ton of error" enters at the door of mystery inherently open in man, and deludes even the very elect thru libelous publicity to accept the most crude and preposterous treatment.

In conclusion, I would say that, from a careful study of the practices of the healers among primitive races and primitive healers among modern races, their achievements depended almost wholly upon psychic influences, whether they were the sorcerer of the ancient Shamanistic belief, the medieval herb doctors or modern Eddyites or chiropractors.

These cults, like all other erroneous propaganda, have within them the elements of their own destruction, and would need no attention from the legitimate practitioner of medicine, were it not for the fact that the untrained, irresponsible individuals who practice them are a greater menace to the public health then are smallpox, scarlet fever or any other contagious disease and they should be quarantined against instead of being permitted to congregate in their offices all manner of contagious diseases on the pretense of cure by replacing an imaginary displaced vertabra or other equally absurd theory.

I am sure that the profession of this state will concur with me in this message to the public: that their only safety lies in the rigid enforcement of the law which requires of every aspirant to practice the healing art a liberal education, a thoro knowledge of human anatomy, physiology and pathology. Upon such a foundation no erroneous propaganda as to cure of disease would be laid, and no injustice could be imposed upon any honest aspirant to the most noble and the most altruistic profession of them all.

ORIGINAL CONTRIBUTIONS

THE OPERATIVE TREATMENT OF HEAD INJURIES. THE DISCUSSION OF A CASE.*

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Almost one-third of brain injuries, with or without a fracture of the skull, should be treated by operative intervention in order to lessen the increased intracranial pressure; the remaining two-thirds of the patients having brain injuries do not reveal the definite signs of an increased intracranial pressure, as shown by the ophthalmoscope and the spinal mercurial manometer, and therefore no cranial operation is indicated; in these cases, the expectant palliative treatment of quiet, ice helmet and catharsis suffices. It is, however, the one-third having an increased intracranial pressure that we wish to discuss, using the following case to illustrate the operative technic and as basis for our remarks.

Case, W. W. On May 21, 1918, a boy of ten years of age was struck by a bicycle which knocked him to the pavement. He cried for fifteen or twenty minutes, then became unconscious, being brought to the hospital one-half hour after the accident. (8:30 p. m.). Admitted to the service of Dr. William Sharpe.

Physical examination revealed an edematous swelling over the left frontoparietal region; palpation elicited a doubtful depressed fracture at the frontoparietal junction. On account of the overlying hematoma a definite diagnosis of depressed fracture of the vault could not be made. At this examination the cerebrospinal fluid showed the presence of blood with a pressure of only 6 mm. of mercury (normal being 5-9 mm.), as registered by the spinal mercurial manometer. Ophthalmoscopic examination revealed no changes in the eye grounds at this time. The temperature was 97.2°, pulse 70 and the respiration 16. The following is the chart record:

The patient was given the usual treatment for shock which consisted of whiskey 2 cc by hypodermic, ss. enema, ice cap to head, black coffee per rectum and heat to the extremities. At 10:05 p. m. he regained consciousness and had a temperature of 98° F, pulse of 74 and respiration of 16. There was no evidence of paralysis. He vomited several times during the night. The temperature and pulse gradually ascended, until at six a. m. the following morning the temperature was 100° and pulse 102. The eye grounds examined by Dr. Kearney revealed an edematous blurring of the nasal half of the optic disc and a dilatation of the retinal vessels, which indicated a definite increase in the intracranial pressure. .

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* Read before the Portland City and County Medical Society, Portland, Ore., July 31, 1918.

It was now considered advisable to lessen this increased intracranial pressure by operation which I performed at 11 a. m. The subsequent treatment consisted in keeping the patient quiet with bromides, codeine if necessary, and plenty of water to drink; liquid diet for four days then soft diet. The patient made an uneventful recovery, being discharged from the hospital June 8, eighteen days after admission.

Technic of the Subtemporal Decompression. A vertical incision down to the temporal fascia was made from the posterior third of the zygoma to the attachment of the temporal muscle to the parietal crest; bleeding from the scalp was controlled by firm manual pressure over the temporal artery and along the cut margin of the skin, until the hemostats were applied to the superficial fascia. The temporal fascia and muscle were now incised vertically and the muscle fibres separated from the underlying bone from the zygoma to the parietal crest. Retracting the muscle as much as possible without injury to its attachment, the epicranium (so-called periostum) was scraped from the underlying bone, and the vault was now opened with a Doyen perforator and burr at a point as low down as possible in the incision, the thinnest part of the skull. To avoid the middle meningeal artery, small rongeurs were used to enlarge the opening posteriorly. With the large rongeurs the bony opening was made as large as possible without injury to the attachment of the temporal muscle to the parietal crest (2½″ to 3″ in diameter); the bleeding from the diplöe was continuously controlled by the use of bone wax.

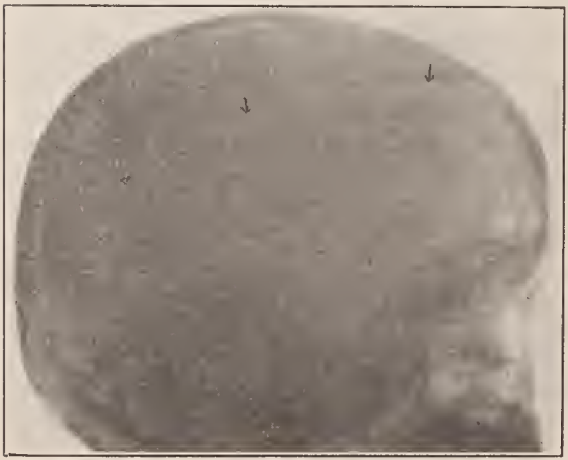
Fig. 1. Linear fracture of the vault. Right lateral aspect. Increased intracramal pressure.

At a point free of large vessels the dura was lifted from the cerebral cortex with a small hook and incised; the incision was made very small, in order to allow the cerebrospinal fluid tinged with blood to slowly escape. The escaping cerebrospinal fluid spurted to a height of two inches which showed naturally a marked increase in its pressure. A grooved director was introduced thru the incision under the dura and the opening enlarged. Protecting the brain with a silver spoon spatula, the dura was cut with scissors in a stellate fashion to the edge of the cranial opening, at which time the cerebral cortex protruded into the decompression opening; also showing the brain to be under increased pressure. The dural vessels were clamped with silver clips before being divided. Cotton pledgets saturated with warm salt solution (100° F) were placed along the edges of the wound until all hemorrhage had ceased; then a gutta percha drain was introduced subdurally in the base of the decompression opening and the temporal muscle united over the cerebral cortex with a continuous catgut suture. (Naturally no effort was made to close the dura). Another gutta percha drain was placed beneath the upper portion of the temporal muscle to care for what little oozing might occur at the upper part of the incision.

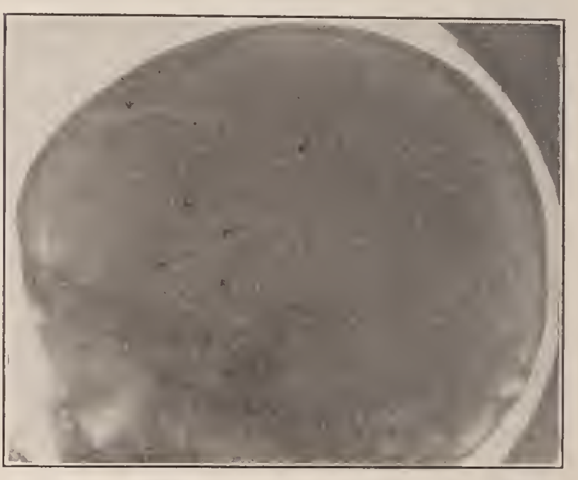
Fig. 2. Linear fraction of the vault. Left subtemporal decompression. Increased intracramal pressure. Ten days postoperative, showing decompression opening remote from line of fracture.

The temporal fascia was approximated with alternately interrupted catgut and silk stitches; the latter were placed last to approximate more closely the fascial edges and thus insure good union, if the catgut should be absorbed too quickly. The superficial fascia was united with interrupted catgut and thus the bleeding points were controlled when the hemostats were removed. The skin was approximated with interrupted silk and a sterile gauze dressing was applied and held in place by the usual head bandage of gauze.

The x-ray plates showed clearly the tremendous fracture. There was no evidence of a depressed fracture of the vault, the hematoma undoubtedly giving the impression of a bony depression. (Figs. 1 and 2).

There are three principal factors which are responsible, during the past few years, for the marked decrease in the mortality of all cases of brain injury with or without a fracture of the skull. They are, first, the determination whether the patient should be operated upon or treated by the palliative expectant method; second, if operative intervention is necessary, then the selection of the proper time to operate; third, the type and technic of the operative procedure.

The first factor is determined by the physical and x-ray examinations, revealing the character and extent of the fracture if present, and the amount of brain injury that may have resulted from depressed fragments of bone. The degree and location of cortical pressure (the result of epidural or subdural hemorrhage and edema) are usually manifest by localized symptoms of paralysis or spasticity, and partial or total paralysis, if the motor area of the brain is involved. Most important are the character of the eye grounds observed with the ophthalmoscope and the pressure of the cerebrospinal fluid, as measured with the spinal mercurial manometer.

If the patient has recovered from primary shock or has even escaped it (and this frequently occurs), then we should be on the alert for the symptoms and signs of a marked increase of the intracranial pressure, which indicate operative intervention and those which counterindicate surgery. These are spasticity or paralysis, slowing or increase in the pulse rate (not below 50 per minute or a rapid increase up to 120 per minute or more), increasing pressure of the cerebrospinal fluid to 20 mm. or over, and edematous blurring of the optic discs with enlargement of the retinal vessels, and also the presence of a depressed fracture of the vault.

Operations should never be advised when the patient is in shock or collapse, when there is severe medullary compression indicated by a slow pulse and irregular Cheyne-Stokes respiration and profound unconsciousness, nor when the pulse rate ascends quickly to 120 with shallow rapid respiration, which indicate medullary edema and collapse, and always terminates in the death of the patient. Having determined that operative intervention is necessary, we should proceed as soon as the patient has recovered from the primary shock or at least before he has been allowed to lapse into the fatal condition of medullary edema.

The question now confronting us is, should we trephine and where, or should we do a subtemporal decompression. Experience has taught us that in all cases of brain injury, with or without a fracture of the skull, showing an increase in the pressure of the cerebrospinal fluid, we should first perform a subtemporal decompression to minimize the probability of medullary compression and possible edema, and then remove or elevate the depressed fragments of bones, if present, at a later operation, within a week at least.

The right subtemporal decompression with drainage is the operation of choice in right handed individuals, for it drains the base of the cranial cavity as well as the vault; it is away from the motor speech area and exposes practically a silent area of the brain; the opposite holds good in left handed individuals. By virtue of the temporal muscle in this locality we are reasonably assured there will be no subsequent cerebral hernia or possible fungus, which often follow trephine operations in other localities when there is high intracranial pressure, causing a protrusion of brain tissue.

We feel in this department that, in cases of brain injury with or without a fracture of the skull but having a marked increase of the intracranial pressure, the first operation should be a subtemporal decompression, which may be followed at later date by what operative procedure may be deemed necessary. Unless the fracture is a depressed fracture of the vault, then the fracture in itself is unimportant so far as the treatment is concerned; it is more a question of the presence or not of a marked increase of the intracranial pressure. Whether that pressure is due to a hemorrhage or merely edema, the operative indication is the same. Very frequently at autopsies, in non-operated cases of head injuries and where no fracture was present, there was also no hemorrhage ascertained, but merely a wet edematous condition of the brain, sufficient to cause medullary compression and then edema, and thus the death of the patient.

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Anthrax. O. T. Schultz (Chicago), Camp Jackson, Columbia, S. C. (Journal A. M. A., Nov. 9, 1918), reports two cases of human anthrax, occurring at Camp Jackson. In both cases, it was due to the use of a new shaving brush. The disease is relatively so rare in civil life that two cases occuring together are noteworthy. The first case was atypical clinically, but the diagnosis was confirmed by the laboratory. Two cases which proved not to be anthrax by laboratory examination, but which clinically resembled anthrax, seemed to be due to the same cause. The opinion of Schultz is that every suspicious lesion of the face should be examined early for bacillus, and the examination be repeated if the first is negative. The sale of all shaving brushes, where there is a possibility that the hairs of animals dead of anthrax have been used should be prohibited.

GONORRHEA IN WOMEN.*

By J. L. Courtright, M. D.
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The present war seems to be on the verge of bringing venereal diseases into their proper sphere. When the federal government, thru its official channels, declares that the control of venereal diseases is one of its greatest problems, and we recall the fact that in the past armies have been demoralized and defeated, as a result of a horde of diseased women turned loose and left behind by the retreating enemy, we realize that the civil medical men need a stimulus to be of greater aid in helping to eradicate and hold these diseases in check. We must teach their far reaching effects, and observe a far more efficient treatment than usually given in both male and female patients. I wish especially to call attention to the fact, which I believe can be conservatively stated, that 80 per cent. of our female gonorrheics are never completely cured; that is, they still have so-called latent gonorrhea.

Early writers paid little regard to gonorrhea in the female. It was not until Nöaggerath's observations were published in 1872 that the full significance was realized that gonorrhea in the female, instead of being but a trivial affair, is a much more complicated and serious disease than is generally believed even today. This is doubtless due to the fact that in the male a gonorrheal urethritis is an active, and in the acute state a painful affair, the discharge being at once noticeable, whereas a urethritis or cervicitis in women attracts but little attention subjectively, and a leucorrhea may come from many causes.

The diagnosis in the female is not as easily made as in the male. As the diagnosis is usually based upon finding the gonococcus present, it behooves us to be very careful in obtaining specimens from suspected cases. Many physicians and authors recommend that the patient present herself without taking a preliminary douche. For specimens to examine for the gonococci we prefer the genital tract as free as possible from mucus and leucorrheal discharge, as otherwise specimens are usually valueless and lead to error. The bacterial flora is mixed and of countless numbers, as it is also the habitat of other diplococci morphologically resembling the gonococcus.

During an acute attack there is not much difficulty in finding the gonococci. Later, however, during the chronic state this is far from being the case. At this time they are found only after thoro search under favorable conditions, and then in smears made from secretions or exudate from vulvovaginal glands, urethra, cervix, Skene's glands or other small glands presenting a small gonorrheal macule.

Our routine method is to clean the surface over mouth of duct of Bartholin's gland, compress gland, take smear of pus or secretion that oozes from the duct, trying to avoid as much contamination as possible from surrounding surface. In case of urethra, insert forefinger into the vagina, compress urethra against symphysis, withdraw finger using firm pressure against urethra. This usually gives good specimens. For specimen from cervix swab out and free from tenacious mucus. Then compress servix, or use a dull curette. Take specimen with small swab or syringe. It is sometimes best to take specimen from Bartholin's glands with hypodermic needle and syringe.

If all of these specimens are free from pus cells, we are not apt to find the diplococcus of Neisser present. The finding of pus cells indicates taking specimens following menstrual period or after use of some mechanical or chemical irritant, followed in about forty-eight hours with more specimens. It is a good policy, where pus cells are found from urethra or Bartholin's glands and no gonococci present, not to tell the patient she is free from gonorrheal infection, but say the specimen does not show germs that cause the disease and to be positive will require examination of many specimens.

To cover the treatment of gonorrhea with its various complications would require volumes. Therefore, in a brief way, I will mention some essentials in treatment of subacute and chronic gonorrhea, as these are the cases that are so common.

Bartholin's Glands. In the majority of these patients we will find one or both vulvovaginal glands involved. The chief clinical manifestation is a small redish macule at orifice of the duct. The gland may present an apparently normal secretion. This type of gland can be best treated by injecting it with one of the silver salts. Use a blunt needle to inject the glands, filling it until patient senses a little pain. This should be done at least every other day. When one of these glands becomes cystic or an abscess forms, the remedy is an excision of gland, an operation that is not always as simple as it may seem. A mere incision only gives relief but does not cure.

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*Read before Pierce County Medical Society, Tacoma, Wash., May 14, 1918.

Urethra. The urethra is one of the permanent homes for the gonococcus in the female, which lodges in the small glands along the floor of urethra, especially just within the external urinary meatus where are two large gland openings. These are Skene's ducts, which are from 5 to 15 mm. in length. They extend upward along the urethra and end in a culdesac.

These glands are of interest, as the gonococci frequently lie latent in them for prolonged periods, and may at any time set up an acute condition. In chronic cases Skene's glands come in for their share of attack. In treating the urethra, therefore, we must attack these glands by injecting them as in case of Bartholin's glands. These should always be injected before the urethra is given its general treatment. If they do not clear up on use of silver salts, cauterize them.

Granulomata around the orifices of these ducts form the pseudo-abscess of Jadassahn. The only successful therapeutic measure in these cases is to split open the duct, thoroly cauterize and completely destroy the glands or their remnants.

One encounters occasionally small tumors that resemble caruncles. They are usually located close to the meatus. By using the hair pin speculum or elastic wire dilator they are curetted off, and their linear base cauterized with electric cautry.

Cervix. The cervix is one of the most difficult locations to cure of a gonorrheal infection. On account of the depth of the cervical glands the ordinary antiseptics do not come in contact with or even approach the deep periglandular involvement. It is necessary first to clean away mucus. This is best done by using a solution of soda bi-carb. and cleaning out cervix as far as the internal os. One favorite treatment is tr. of iodine applied daily to the cervical canal. Where it is used this often, one must protect the vaginal cervix from contact with the iodine by using cotton or gauze. We usually smear the vault of vagina with petrolatum.

Since the habitat of the gonococcus is deep in the cervical glands and their walls, it is reasonable to believe that they are not reached by ordinary chemical means. Thermotherapy is of great value in these cases to bring about a speedy cure, where there is no infection beyond the internal os. Heated sounds at a temperature of 125° F. for one to three hours is efficacious. I have used a temperature as high as 132°, but find there is danger of a cervical stenosis following its use. The use of prolonged hot douches at home, if properly carried out, gives excellent results in endocervicitis, as well as in conservative treatment of tubal involvement. Our plan is to have the patient take these douches lying down, continuing their use for thirty minutes to one hour at temperature 115°. Some can combine hot hip bath with the douche, which gives excellent results.

The Schroeder operation should be done on the cervix, when tubes are removed, as the case is still infective in the cervix. The usual general line of treatment is to remove the tubes with directions to take lysol douches.

In conclusion we find that gonorrhea in women is one of the most difficult diseases to treat, and cannot be cured by slipshod methods or by any specific medication, but requires the earnest cooperation and confidence on part of both patient and physician.

Most of our cures are surface cures. This is why we often hear the expression that gonorrhea is always curable except the first case.

A study of gonorrheal pathology is essential to rational and scientific treatment.

It is useless to treat a wife and not the husband who carries gonococci in his prostate or other localities.

Influenza at Manila. A. F. Coutant, Zamboanga, P. I. (Journal A. M. A., Nov. 9, 1918), gives an account of an epidemic of influenza observed by him while in charge of St. Luke's Hospital, Manila, during the month of June, 1918. About 300 cases came under his direct observation. So far as could be learned, the epidemic originated in Manila. All other epidemics in neighboring regions were first observed later, with only one exception. A United States Army transport from San Francisco, which arrived after the Manila epidemic was practically over, had had some cases during the voyage. The disease in the Manila epidemic was most severe among the Filipinos and least so among the whites. Within ten days after the outbreak a great majority of patients were well enough to go back to work, but business was seriously affected while it lasted. The typical course was followed in most cases. A pronouncedly slow pulse rate, sharply distinguishing it from dengue fever was the rule, as was also the absence of skin rash. Anorexia, nausea and vomiting were more common than usual. Hemorrhage from the mucous membranes was fairly common. The patients were all given a routine course of treatment consisting of calomel and santonin followed by Epsom salt or castor oil, quinin and occasionally acetylsalicylic acid for headache. The death rate of hospital patients, 2 per cent., was rather high for the disease, and thirty-one deaths, altogether, were reported at the health department. A bacteriologic examination by Dr. J. W. Johnson, M. R. C., U. S. Army, showed the causative agent was undoubtedly the influenza bacillus of Pfeiffer.

NORTHWEST MEDICINE

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Devoted to the Interests of the Medical Profession of the Pacific Northwest.

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NOVEMBER, 1918.

EDITORIAL

RETRENCHMENT AS A WAR MEASURE.

In order to conserve the use of paper, the Pulp and Paper Section, War Industries Board, has made an extensive reduction in the amount of paper permitted to be used by publications during the coming year. The same treatment has been extended to NORTHWEST MEDICINE as other journals of its class. Accordingly, during the period of the war our reading pages will be reduced to an appreciable extent. The Government authorities state that, while they have the power to enforce the saving of paper suggested to each publication, they do not expect to be obliged to exercise such authority but confidently rely upon the loyal cooperation of business and periodical publishers. While we regret the necessity of thus curtailing the space devoted to our monthly issues, we willingly extend this requested cooperation to aid in the saving of paper. We are certain that our readers will extend equal indulgence to the journal for its reduced size and consequent limitation of published material. It is to be hoped a return to the former number of pages may follow after the close of the war, when business affairs again are established on a normal basis.

THE INFLUENZA SCOURGE.

During the past month the cities of the Northwest have experienced the full effect of the influenza pandemic which progressed with great speed from the Atlantic coast. This has been the most extensive world epidemic experienced by the existing generation. It has spared no class of individuals nor has any form of isolation been an effective exemption from attack. While the civilian population has suffered extensively, the most distressing results of its ravages have been witnessed in the army camps, where large numbers of men are concentrated. From a medical standpoint the most appalling feature of the epidemic has been the fatalities from a form of pneumonia with which the average practitioner was totally unfamiliar. In spite of all efforts to check its advances, in many cases the medical attendant has been practically helpless in face of the rapid and unopposed progress to a fatality.

The general compliance of the public to the unusual and extraordinary efforts put forth by public health officials in the way of prophylaxis has been most noteworthy. The inconvenience and loss from closing of schools, churches and theatres and all places of assembly have been accepted with more or less equanimity. The few individual objectors to wearing of gauze masks and other sanitary provisions have been negligible in comparison with the unanimous compliance with the stringent requirements to check the spread of the disease. Whether the prophylactic vaccine so generally used in the Northwest has been effective as a protection against the contraction of influenza is a subject of debate. The public confidence in the measure, however, has been indicated by its widespread adoption by all classes of people. The fact that the epidemic appears to have created less havoc in the cities of this section than in some others of the country would lead one to place some confidence in the effectiveness of these various measures of prophylaxis which were enforced with considerable degree of severity. At this time it appears that the epidemic is wearing itself out and it is hoped that it will soon be a thing of the past.

THE MEDICAL RESERVE CORPS AND THE VOLUNTEER MEDICAL SERVICE CORPS.

There are 32,685 doctors in the service of the United States Army and Navy, which is a splendid record for the medical profession of the United States. This, however, tells only a portion of the story. The questionnaires recently sent out from the medical section of the National Council of Defense have been answered by thousands of loyal, patriotic and unselfish doctors. It is very refreshing and gives us a new pride in the achievements of our profession to look over these records. A word of praise must also be given to those who have organized this splendid system, by which every physician and surgeon is given an opportunity to offer his services to his country. It evidently required a great deal of thought and consideration, as well as the organizing genius of Dr. Franklin Martin, to accomplish this splendid result.

The men who so generously answered the questionnaires are classified according to age, dependents and local needs in two classes; first, the Medical Reserve Corps, on which the Surgeon General's office may call at any time for active service, and, second, the Volunteer Medical Service Corps, whose members may when necessary be called into the service, but for the present are exempt from active service on account of age, dependents, local needs or obvious physical disability. Thus all the unselfish, patriotic physicians of the country are solidly in line for the winning of the war.

The work of classification is a large one and, as soon as it is completed, the men who have offered their services will be furnished with appropriate buttons, to distinguish them from the few who have failed to respond to their country's call. The work of classification is being done with great care by the office force, assisted by workers called from different states of the union. After this work is done, cards are punched from these questionnaires, so that every physician is classified by these punched cards, and there is an ingenious machine which will pick out practically anything that is wanted from these cards. For instance, if they wish to choose an alienist from a certain district, and in this district there are 1500 cards with possibly ten of the specialists wanted, it would be considerable work to go over all these cards and pick out the latter but, by placing these cards in the machine and turning on the power, it separates the cards, and will have those for the ten alienists in one package within a few minutes. The same thing is true in selecting those with any special qualification, as shown by the questionnaires.

The work of the medical section of the National Council of Defense is voluntary, but it is being done with the sanction and cooperation of the office of the Surgeon General and is working in close harmony with that office. In fact, it is furnishing to the Surgeon General's office the data required, so that they can make an intelligent selection in choosing officers for the medical department of the army.

CARE OF THE FEEBLE MINDED.

The most unfortunate class of people among our population comprises those born with defective mentality. Starting from infancy with the handicap of weak minds, they are destined to be a care thruout their lives, to greater or less extent, on the community in which they live. For many years the state has recognized its duty to supervise the education and protection of such individuals, in order that as far as possible they may have some degree of self-support and to this extent relieve the public of the burden of their maintenance. In the multiplicity of interests arising in a rapidly growing state, it is not surprising that the care of these unfortunates should be neglected in the consideration of other matters estimated of greater importance. In the large development of the state of Washington and the rapid increase of population in recent years, the proper and suitable care of the feeble minded has not kept pace with other developments. This lack of suitable provision is especially noticeable in western Washington. The only institution for the care of these unfortunates is located east of the mountains, at Medical Lake which provides for about one thousand inmates, two-thirds of whom come from western Washington. Any one familiar with the problem of caring for juvenile delinquents is constantly impressed with the urgent demand for suitable provision for these dependent citizens. Suitable legislation to provide for establishment of an institution of this kind in western Washington should be brought before the next session of the legislature. All physicians interested in this problem should bestir themselves at an early date to arouse public sentiment for the enactment of legislation to accomplish this purpose.

MEDICAL NOTES

Additional Commissions. Since our last issue the following names have been received of physicians who have been commissioned for war service. These names have not been previously published in this journal:

OREGON.

Medical Reserve Corps, U. S. A.

Applewhite, J. A., Portland.
Barber, M. C., Bedford.
Brooks, F. B., Roseburg
Clement, L. O., Grants Pass.
Conroy, R. G., Medford.
Crowthers, E. J., Austin
Ditto, J. E., Rainier.
Fisher, R. S., Portland.
Francis, C. H., Elkton.
Hall, M. K., La Grande.
Hewett, F. G., Independence.
Higgs, A. K., Portland.
Holt, R. E., Portland.
Newson, G. S., Athena.
McDaniel, R. E., Portland.
McKelway, J. I., Pendleton.
Richardson, A. L., La Grande.
Roberts, L. O., Portland.
Seamann, Clayton, Portland.
Sonroy, B. G., Medford.
Sternberg, J. D., Portland.
Stewart, E. B., Roseburg.
Tamasie, A. E., Pendleton.
Watson, R. W., Salem.

U. S. Naval Reserve Corps.

Hare, W. B., Portland. Nitschie, E. J., The Dalles.

WASHINGTON.

Medical Reserve Corps, U. S. A.

Ahlquist, R. E., Spokane.
Appleton, W. H., Spokane.
Bevis, E. M., Republic.
Brooks, B. F., Sedro Woolley.
Browns, Walter, Yakima.
Carver, F. H., Waitsburg.
Cocklin, W. W., Moxee.
Coffin, S. D., Seattle.
Cowan, Harry, Walla Walla.
Day, Will, Dayton.
Dudley, H. D., Seattle.
Durand, W. S., Everett.
Fordyce, W. E., Sunnyside.
Fursey, F. R., Spokane.
Hanson, Ralph, Spokane.
Kerkow, R. K., Valley.
Lawrence, E. J., Spokane.
Lewis, C. A., Fairfield.
Lundy, L. F., Seattle.
Lupton, E. A., Spokane.
McDowell, A. E., Seattle.
McClurg, C. B., Vancouver.
Murphy, G. E., Olympia.
Pascoe, C. S., Tacoma.
Peterson, J. R., Seattle.
Poska, A., Seattle.
Reger, E. L., Spokane.
Rosen, Jerome, Spokane.
Rowland, S. J., Toppenish.
Skinner, H. H., Yakima.
Wallace, J. E., Spokane.
Whitty, J. T. W., Elma.
Wimberly, G. W., Toppenish.

U. S. Naval Reserve Corps.

Buschmann, T. W., Seattle.
Cooper, P. B., Yakima.
Griswold, W. S., Seattle.
Hopkins, R. T., Seattle.

IDAHO.

Medical Reserve Corps, U. S. A.

Anderson, E. T., Sandpoint.
Dodd, J. A., Moscow.
Farrell, N. H., MacKay.
McDonald, J. L., Payette.
Prindle, E. S., Spirit Lake.
Scroggs, W. P., Eden.

UTAH.

Medical Reserve Corps, U. S. A.

Broaddus, C. A., Delta.
Calonge, S. D., Salt Lake City.
Nixon, J. W., Ogden.
Rees, N. J., Nephi.
Rothwell, S. G., Murray.
Shepherd, W. B., Beaver.

OREGON.

Volunteer Medical Service Corps. The Central Governing Board of the Volunteer Medical Service Corps of the Council of National Defense has announced the following executive committee for the State of Oregon: A. J. Giezy, of Portland, Chairman; H. C. Jefferds and S. E. Josephi, of Portland; William Kuykendall, Eugene; J. A. Fulton, Astoria. In addition to these there will be one representative in each county. The purpose of the committee is to cooperate with the Central Governing Board in carrying on all activities pertaining to the mobilization and enrollment of members of the corps thruout the state.

County Representatives of Volunteer Medical Service. Dr. William Horsfall, Jr., of Marshfield, has been appointed representative of the Volunteer Medical Service Corps of Coos and Curry Counties; Dr. J. P. Bartle for Lane County; Dr. J. P. Wallace, of Albany, for Linn County.

New State Health Officer. Dr. A. C. Seeley, of Roseburg, has been appointed as acting state health officer and assistant surgeon in the public health and marine service. He will make his headquarters in Portland. Besides acting as state health officer the doctor will take charge of all extra cantonment work at the various army camps.

Resigns as State Health Officer. Dr. R. E. Holt, of Portland, who has been state health officer for the past year, has resigned his office in consequence of being commissioned captain M. R. C. of the U. S. Army. He succeeded Dr. F. N. Roburg, who also resigned to enter the medical reserve corps.

United States Inspector. Dr. Joel C. Booth, Army captain stationed at Astoria, has been appointed United States Inspector for the district embracing that city and the forts and cantonments at the mouth of the Columbia. His duties comprise sanitary inspection of hotels, restaurants, etc.

Physician for Soldiers' Home. Dr. B. R. Shoemaker, of Salem, has been appointed physician for the Oregon Soldiers' Home, to fill the vacancy caused by the absence of Dr. E. B. Stewart who entered military service.

Reconstruction Hospital Site. Col. E. H. Northington, former head of the surgical service at Camp Lewis, is in charge of the inspection of sites for a reconstruction hospital. He is on a tour of the Northwest inspecting hospital sites at Portland, Spokane and Seattle.

Hospital Built in Record Time. Last month in Portland the Benson Polytechnical Hospital ward was built for influenza patients, the construction occupying less than two days. Its cost was $7,000. Under ordinary circumstances it would have taken about two weeks for this construction.

Dr. E. B. Stewart, physician at the Soldiers' Home at Roseburg, has been granted leave of absence during the period of war by the State Board of Control. He has been granted a commission in the U. S. Army.

Dr. E. J. Crowthers, formerly of Cornelius but later physician for a lumber company at Austin, has left for Camp Fremont, Calif., having been commissioned first Lieutenant.

Dr. A. Gibson, of Lakeview, has returned home from army camp. The doctor had a captain's commission but was compelled to resign on account of ill health.

Dr. E. F. Sether, of Roseburg, has been appointed First Lieutenant in the Medical Corps of the Oregon Guard.

Dr. Clayton Seamann, of Portland, commissioned Captain M. R. C., has been ordered to San Francisco.

Dr. J. H. Robnett, of Albany, has been appointed medical inspector of the public schools of that city.

WASHINGTON.

Draft Board Doctors Exempt. Doctors acting on draft boards and medical advisory boards are exempted and prohibited from enlistment in the army by virtue of their services in examining men for the national army.

Memory of Pioneer Doctor Preserved. Smith

Cove, a section of the Seattle water front, has become famous by reason of the immense docks of the Port Commission and Great Northern Railroad located on its waters. Probably few people understand that this commonplace name commemorates Dr. H. A. Smith who was Seattle's first physician, his home being on this cove. It has been proposed to eliminate this prosaic name and substitute something more high sounding. Justice to the memory of a worthy pioneer would demand the continuance of this old designation.

Influenza Hospital. The old County Court House, at Seattle, was last month turned into an annex of the City Emergency Hospital, for the purpose of treating influenza and pneumonia cases. It was provided with 300 cots and nearly that number of patients were under treatment at one time. Much difficulty was found in getting suitable nurses, trained nurses being supplemented by volunteer workers. The hospital was under the immediate supervision of superintendent of health, Dr. McBride. It answered a very pressing need during the height of the epidemic.

Gymnasium Used for Hospital. The gymnasium of Whitworth College at Spokane was last month converted into a hospital for the treatment of influenza patients among the student soldiers. This served as a satisfactory temporary hospital for that purpose.

Wassermann Test Discretionary. Chief of Police Warren, of Seattle, has forbidden policemen arresting disorderly persons to detain such people for a Wassermann test. The Chief himself will be the judge as to whether such a test is necessary. It is claimed this procedure was made use of to detain persons in the City jail when there was an absence of sufficient evidence to prosecute.

Gift of an Ambulance. Dr. I. P. Balabanoff, one of Tacoma's well known physicians, has presented a Ford ambulance to the city health hospital as a memorial to his wife, Dr. Carsley Balabanoff. The ambulance is to be used in connection with contagious work of the city hospital.

New Superintendent at Steilacoom. Dr. A. J. Loughary, who formerly practiced in Seattle but for several years has lived on his fruit ranch in Yakima valley, has returned to the State Hospital for the Insane at Steilacoom with which he was connected several years ago. He is again at the head of this institution.

Health Officer Returns. County Health Officer Dr. C. R. Garrett returned home to Walla Walla last month after postgraduate work in New York. He took charge of the influenza situation to which he had paid considerable attention in the east.

Concrete Detention Home. The city architect of Seattle is preparing plans for a $10,000 concrete detention home which will be built at the city stockade on Beacon Hill for the handling of contagious diseases.

Dr. J. S. McElvain, of Anatone, has moved to Asotin, where he will take over the practice of Dr. E. D. Sawyer who has practiced in that city for the past ten years.

All Doctors Register for Service. Every physician in Anacortes has volunteered for some kind of government service. Those who have not gone into the active army service have signed up as members of the Volunteer Medical Corps.

Drs. G. A. Ghent and Montgomery, of Seattle, have taken the practice of Dr. B. F. Brooks, of Sedro-Woolley, the latter physician having gone into army service.

Dr. O. W. Mintzer, formerly a resident of Cashmere, has returned to that city to take charge of the Wenatchee Deaconess Hospital.

Dr. E. Wolfe, of Krupp, has moved to Colfax, where he will take the practice of Dr. D. B. Harvison who has gone into army service.

Dr. H. A. Makins, of Yakima, who started his military career as woodcutter in the spruce division has been transferred to the Medical Reserve Corps where he is engaged in professional duties.

Dr. F. S. Miller, of Spokane, who has for some time been medical director at Edgecliff Tuberculous Sanitarium, has left the city for the east, having enlisted in army service.

To Serve in Siberia. Dr. A. C. Johnson, of Spokane, and Dr. G. H. Slater, of Deer Park, who have been serving at Camp Lewis, have been assigned to service in Siberia with the American forces.

Dr. Payzant, of Granger, has moved to Sunnyside to take the practice of Dr. Fordyce during his period of war service. This leaves Granger without the service of a physician.

Dr. J. B. Manning, of Seattle, who recently returned to this country after serving a year in Red Cross pediatric service in France, has of late had charge of an influenza hospital at Gloucester, Mass. He is reported to have done very effective work in combating the epidemic in that section.

New Health Officer. Dr. F. J. Hackney, of Toledo, has moved to Centralia where he has been appointed Health Officer to succeed Dr. W. A. Smith, resigned.

Dr. W. H. Appleton, of Spokane, has been appointed major in the medical reserve corps. He is one of the few doctors inducted into the army with the rank of major.

Dr. S. A. Owens, of Vashon Island, has moved from there to Montesano where he will continue to practice.

Dr. W. A. Smith, of Centralia, has resigned as City Health Officer and gone to Camp Lewis, having been commissioned as Captain, M. R. C.

Dr. J. T. Allen, of Dayton, has moved to Vancouver, where he will be established for practice.

Dr. J. L. Patrick, of Harrington, has moved to Wenatchee.

IDAHO.

Meeting of the State Board of Medical Examiners. At the annual meeting of the Board, held in Boise Oct. 5, eleven candidates received license to practice and reciprocal licenses were granted to six others. The examining board consists of Drs. G. W. Stoles. Preston; Susan Bruce, Lewiston; J. J. Herrington, Moscow, and R. H. Fisher, Rigby.

Dr. Worthington, of Coeur d'Alene. has moved to Republic, Wash., where he will take the practice of Dr. E. M. Bevis for the period of the war.

Dr. E. T. Anderson, of Sandpoint, has been commissioned captain in the army. He is a veteran of the Spanish-American war.

Dr. Ralph Falk, of Boise, has been promoted from First Lieutenant to Captain, M. R. C. He is one of the youngest physicians in the service to receive this appointment.

Dr. Ernest Laubaugh, of Boise, has been promoted to Captain, M. R. C. He is in charge of the Bacteriological laboratory at Camp Stewart, Norfolk, Va.

Dr. J. M. Fairly, of Orofino. Captain, M. R. C., is now located at Camp Cody, N. M.

Dr. G. H. Kennett, of Wallace, has been commissioned 2d Lieutenant, M. R. C. and assigned to duty at Fort Ogelthorpe, Georgia.

OBITUARY.

Dr. A. R. Lundgren died at Spokane last month from pneumonia, following influenza, after an illness of seven days. He was 34 years of age, born in New York City where he spent his boyhood. He studied engineering at Columbia University for two years, then took up the study of medicine and graduated from Creighton Medical School, Omaha, Neb., after which he was house physician at St. Joseph's Hospital for a year. Later he was house physician at a Salt Lake City Hospital. After practicing for a time at Lind and Coeur d'Alene he located at Spokane in 1908. He was commissioned Captain, M. R. C. and was waiting for a call for service when taken ill. He was one of the well known physicians of Spokane and highly respected by all who knew him.

Dr. G. C. Spurgeon died at Seattle, Wash., Oct. 29 from pneumonia following influenza. He was 44 years of age, born at Nevin, Ia. He graduated from Colorado College at Colorado Springs and obtained his medical degree at Northwestern University Medical School in 1905. He located in Seattle in 1907, where he practiced till his death. He specialized in x-ray and laboratory work. Since the United States entered the war he devoted much time to examination of recruits. He had a lovable disposition that endeared him to many friends among doctors and the laity. He occupied a prominent position in the medical profession of his city.

Dr. W. C. Kantner, of Seattle, Capt., M. R. C., U. S. A., died in France October 18, 1918, of angina pectoris. He was located at Hospital Center with Base Hospital No. 50 which was organized in Seattle by Major James B. Eagleson. He was 34 years of age, born at Terry Hill, Pa. He moved to Oregon as a boy. He graduated from Willamette University of that state and obtained his medical degree from the medical department of this institution in 1906. He located in Seattle that year but soon went to Concrete for a year, after which he remained permanently in Seattle. He had many friends in this city and was well established in practice when he left for overseas with the Base Hospital.

Dr. J. F. Munns died at Bremerton. Wash., Oct. 13, 1918, from pneumonia following influenza of nine days duration. He was 49 years of age, a native of Ontario, Canada. In his early life he was a druggist, having conducted stores in St. Paul and Minneapolis. He graduated from the medical department of the University of Minnesota. He located in Seattle in 1901, a year later moving to Bremerton. Later he practiced again in Seattle but in 1911 returned to Bremerton where he practiced until the time of his death. He had a very large acquaintance and was held in high esteem by all the citizens of his city.

Dr. M. U. Lieser of Vancouver, Wash., died Oct. 26 from pneumonia following influenza. He was born in Forest Grove, Ore., but lived at Vancouver most of his life. He attended the Vancouver schools and Pacific University, graduating from the pharmacy course of the University of Washington. He studied medicine at the University of Oregon and, following his graduation, was interne in St. Vincent's Hospital in 1909. He took up the practice of medicine at Vancouver which he continued until the time of his death.

Dr. W. J. Phillips, of Corvallis, Ore., First Lieutenant, M. R. C., U. S. A., died at Camp Lee, Va., Oct. 13 from pneumonia following influenza. He came to Oregon Agricultural College in 1916 as medical advisor and left for Camp Lee in April, 1918. He received his Bachelor's degree from Louisiana State University in 1911. He graduated from Jefferson Medical College in 1915. He was known to a large number of students and was an untiring worker for their benefit when connected with the Agricultural College.

Dr. D. H. Warner, Lieut., U. S. N. R. F., died at the Naval Hospital, Bremerton, Wash., Oct. 7 from pneumonia following influenza. He was born in Wisconsin in 1891. He graduated from the Oregon Agricultural College and received his medical degree from the University of Oregon. He served at St. Vincent's and Good Samaritan Hospitals in Portland. Upon graduation he entered the Navy, having been stationed at the Naval Hospital since that time.

Dr. A. M. Polk died at Winthrop, Wash., Sept. 7 of angina pectoris, at the age of 45 years. During the early days he was Government physician for the Indian Mission near Tonasket. From there he practiced in Loomis and later at Conconully, later settling at Winthrop.

Dr. U. N. Millett, of Bellingham, Wash., was killed by a railroad train Sept. 24. He was 85 years of age and for some time had been in poor health. Formerly he lived in Oklahoma and two years ago moved to Bellingham.

Dr. J. W. Stone, of Seattle, Wash., died Oct. 16, of pulmonary hemorrhage. He was 32 years of age. He graduated from Jefferson Medical College and had practiced in this state since 1913.

CORRESPONDENCE

OBSERVATIONS IN ENGLAND AND FRANCE.

France, "No Place Worth Mentioning,"
Sept. 29, 1918.

Dear Doctor:

I wish I were a George Patullo so I could give you a good description of events as they have unfolded but I cannot, so I will have to content myself and inflict you with those outlines that the censor will pass. You will of course assume that I am the censor; so I am within limits, but if I do not censor properly I will be severely censured. The censorship rules are wondrous affairs and complicated, many things being forbidden. To give you an example, one of our men in writing home said, "We are not allowed to tell you about the things we do not get to eat," and he told the truth.

The trip across country and ocean was interesting but uneventful. The interesting features are not permissible conversation. We stopped daily to allow the troops to swim in such rivers as the Saint Jo, the Missouri, a mud lake in Dakota, Lake Pepin in Minnesota, Indian Lake farther east and the Hudson, but as to whether or not the trip was longer or shorter than usual, it is "verboten."

We traveled in an English ship with tea and puddings daily for some days, but whether or not we were crowded like cattle or whether or not my bed was a board, I should of course hesitate to state and, anyway, one goes to war but once and this was Uncle Sam's personally conducted tour and who cares for expense.

The trip was quiet, smooth sea, no seasickness, no submarines, altho an oil tanker five hours behind us was torpedoed, but after a longer or shorter trip we were landed at an English port and everybody received a letter from the King thanking him for coming over. Then we took a little railroad trip across England in their little toy trains, but they ride very easily and the country was lovely. It looked like a well kept lawn and certainly no evidence of war except an occasional soldier or blessé.

The English people seemed glad to see us and always asked, "how many soldiers are coming." They have been seeing Yanks arriving every day for months and they seem to have the idea that there is no limit. All the kiddies begged for American pennies. One little girl marched beside me holding my hand. I asked, "How far are you going, miss," "As far as you like, sir." Aged about six, beginning young, don't you think?

Then we traveled across France in French style, officers fairly comfortable, but the men in cars marked 38 hommes and 8 cheveaux but whether or not the trip lasted ten days and nights or more I am unable to state. It is of interest to observe that the cars are not provided with American sanitary requirements and that stops were not as frequent as many would have wished. "C'est la guerre."

We came in due course to our detraining point which is a town of considerable size. We were loaded into trucks and taken some 15 kilometers to a village, where we were to be billeted. We were the first American troops to be billeted in this village and the people were glad to see us. The French are certainly the most courteous people in the world. As you strike France and meet her people and see and understand something of them and what they have done, you begin in some measure to feel what Pershing meant when at the tomb of Lafayette he said, "Lafayette, here we are." It would be a glorious thing if we could partially pay our debt to France by restoring her lost provinces of Alsace and Lorraine and the latest war news seems to show that we are making a good start.

You begin to love France and to smile indulgently over some of her sanitary shortcomings (as we see them). In the little village where we are billeted I doubt if there is a sanitary flush toilet. I have searched—you know that is part of my job—to inspect sanitary and insanitary features. I have not seen any modern appliances but have found many ancient ones, not the barnyard variety as we know them, but beautiful little stone houses with red tiled roofs, set in gardens of fig and lemon trees, the odor from said structures assailing you as you come down the street. Inside these little structures are most carefully built a floor of stone or concrete, no seat but in the center a slightly raised area in which is a hole about six inches in diameter. On either side of the hole, chiselled in the stone or outlined in the concrete, are the outlines of two feet so that, if yours are correctly placed and the stooping posture assumed, you will under certain circumstances accurately hit the hole, but should your trajectory be too high there reposes a little broom of twigs in the corner to correct the error. When not in use the hole is covered by a round disc with a long handle. In America we are wasteful both of water and fertilizer. As one of our boys remarked, we spend thousands for our sewers and flushing toilets and then import bird dung from South America for our lawns. Here nothing is wasted, water is scarce and must be preserved, the country is thickly settled, ground is all intensively cultivated and fertilizer must be constant.

Wine is now being made hereabouts, and I have seen it produced in several ways. There is a strictly scientific method that produces the beautiful claret color so justly famous, but the peasant makes it another way for home consumption. The grapes are gathered in tubs and tramped down by the bare feet. The tubs are carried to the wine house and further tramping with the bare feet and, if something is wanted, the barefooted tramper hops out of the tubs and walks nonchalantly across the barnyard, not avoiding the brown and oozy droppings of the festive goose or equally festive bullock, and back into the tub. I am sure the more scientific way must lose something of the aroma that the other method secures.

Of course you want to hear about the war. Really, you know more of that than I do; we get little news and that late. We are training and later we will get in on it unless Bill gets enough before we get to him. But you and I know he is going to get everlastingly licked or it has all been in vain and will have to be done over later.

Robert M. Stith, (Seattle),
1st Lieut. Med. Corps., 69 Art., C. A. C., A. E. F.

A WORD FROM THE FRONT.

Camp Hospital No. 29, A. E. F., France.
Sept. 11, 1918.

Dear Doctor:

You know there is so dog-gone much going on all the time one never seems to have a quiet moment when he can sit down and write. You will see by the heading that I am transferred from my former post. I was gradually but surely being ruined so far as surgery was concerned and, if I had had much more of it, I might of had to seek some other field of endeavor after the war. Thank heaven I have no longer an executive job but I am doing surgery exclusively. We have a dandy hospital of 1,000 beds and a perfect peach of an operating room.

Whom do you suppose I ran into down in Bordeaux? Capt. Gibson and McGee. The city was packed with American officers and men. Capt. Gibson made me room with him. Ostrom and Frank Carroll are here and I saw Bill Wynn's and R. W. Perry's names registered in Paris. A new bunch of troops just came in and are making the night hideous. I don't know whether they are fresh from the other side or not but I know they are fresh. Those coming in from the front don't yell so lustily. The drive has now apparently been checked and I suppose they will hold us out of Berlin for some time yet.

Walter S. Kelton, (Seattle).

Sept. 11, 1918.

BOOK REVIEWS

The Surgery of Oral Diseases and Malformations. Their Diagnosis and Treatment. By George Van Ingen Brown, D. D. S., M. D., C. M., F. A. C. S., Major, Medical Officers' Reserve Corps, U. S. Army, etc. Third Edition with 570 Engravings and 20 Plates, and a Selected List of Examination Questions. 734 pp., $7.00. Lea & Febiger, Philadelphia and New York, 1918.

The numerous pitiful examples of mutilation, under the guise of plastic surgery upon harelip and cleft-palates, certainly demonstrate the crying need for a better basic understanding, both of the pathogenesis and treatment of these lesions by the average surgeon. The author's experience in oral surgery, coupled with his pioneer contributions to the surgery of harelip and cleft-palate, makes the chapters on these subjects absolute classics, and for that reason alone renders this work invaluable to anyone recommending or undertaking this type of surgery. The chapters on focal infections of oral origin and gun shot wounds and fractures of face and jaws are especially good. In fact, as one reviews the work from beginning to end, it would be hard to choose any single chapter to demonstrate an inherent weakness in the presentation of the salient facts. For any man who pretends to do oral surgery this book is invaluable. Shaw.

War Surgery of the Abdomen. By Cuthbert Wallace, C. M. G., F. R. C. S., Eng., M. B., B. S. Lond., Surgeon St. Thomas' Hospital; Lecturer on Surgery in the Medical School, etc. 152 Pages with 26 Illustrations, $3.00. Blakiston's Son & Co., Philadelphia, 1918.

Wallace's interest in war surgery of the abdomen began with the British Campaign in South Africa. Since 1914 he has been almost constantly in touch with the clearing hospitals at the front line, where operations for abdominal injuries were performed. His personal experience is probably the most extensive of any of the British consulting surgeons, and he has written numerous articles in the British journals, dealing exhaustively with all phases of abdominal wounds. This small book is practically a monograph, incorporating within its pages the valuable material of his many articles. Its treatment of the subject is complete, the illustrations are good, tho not numerous, and statistics are frequently given thruout. We are not familiar with anything better in this line. Forbes.

Anatomy of the Human Body. By Henry Gray, F. R. S., Fellow of the Royal College of Surgeons; Lecturer on Anatomy at St. George's Hospital Medical School, London. Twentieth Edition Thoroughly Revised and Re-edited by Warren H. Lewis, B. S., M. D., Professor of Physiological Anatomy, Johns Hopkins University, Baltimore, Md. 1396 Pages, Illustrated with 1247 Engravings. Cloth, $7.50; Leather, $9.00. Lea & Febiger, Philadelphia and New York, 1918.

As a practical work on the subject of anatomy, the text-book by Gray has always been recognized and appreciated. Numerous changes have been made in successive editions necessitated by advances in science. But like the others, this last edition contains much of the original material and many of the original illustrations. There are now distributed thruout the work special sections on embryology and histology and there is much new matter on physiologic anatomy. We commend this volume for its logical treatment of a subject which has not always been so handled as to stimulate our greatest interest. FORBES.

Military Hygiene and Sanitation. By Frank R. Keefer, M. D., Colonel, Medical Corps, United States Army; Formerly Professor of Military Hygiene, United States Military Academy, West Point. Second Edition, Reset. 12mo. of 340 Pages, Illustrated. Cloth, $1.75, net. W. B. Saunders Company, Philadelphia and London, 1918.

This volume originally designed for officers and men other than the medical department has been enlarged upon in order to cover the new type of trench warfare, so that the matter of field sanitation forms an important feature in the present edition. To a layman or a medical man who has not given the subject of military hygiene and sanitation close attention a fairly clear insight is given re preventable diseases, venereal prophylaxsis, physical conditioning of recruits, the soldiers' clothing, equipment and so forth. The rationale back of the care of troops is plainly set forth. On the whole the contents of this work may be very profitably perused. SPEIDEL.

The Surgical Clinics of North America. Vol. II, No. 3, June, 1918, with 63 Illustrations; Vol. II, No. 4, August, 1918, with 110 Illustrations. Published Bi-Monthly. Price per year: Paper, $10; Cloth, $14. W. B. Saunders Co., Philadelphia and London.

The June number of the Surgical Clinics, among other interesting articles, contains a series of papers on stone. One by E. H. Ochsner is on renal calculus and gall stones; by Dr. Bevin on kidney stone, ureteral stone and common duct stone; by Kolisher and Eisenstaedt on ureteral stone. These papers present an unusual symposium on kindred topics. The paper by E. H. Ochsner on treatment of potential and acquired static flat-foot presents a very interesting discussion of this common ailment. His method of correction by the application of adhesive straps is very effectively illustrated. He states that the prognosis in flat-foot is very good if carried out according to his instructions. Both of these volumes contain papers on many surgical subjects of the greatest value to every practicing surgeon, all being extensively and effectively illustrated. SMITH.

Gymnastic Treatment and Joint and Muscle Disabilities. By Brevet Col. H. E. Deane, R. A. M. C., in charge War Hospital, Croydon, with Preface by Temp. Colonel A. Carless and Brevet Lieut.-Col. F. W. Mott, F. R. S., R. A. M. C. (T). 146 pages. Oxford University Press, London and New York, 1918.

This small volume deals with a branch of reconstruction work in which results are accomplished without the complicated and often expensive apparatus so generally in use at the larger orthopedic

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centers. The class of cases most suitable for the treatment by gymnastic exercises is clearly indicated and the book thruout is adequately illustrated. Anyone anywhere can improvise sufficient apparatus for the majority of these exercises, but the ideal appliances, viz: the hand bag, Indian clubs, the skipping rope, wrist rollers and pulley machines, the vertical rope, the parallel bars, the sparred plank and the beam are here fully described. FORBES.

The Orthopedic Treatment of Gunshot Injuries. By Leo Mayer, A. M., M. D., Instructor in Orthopedic Surgery New York Postgraduate Medical School and Hospital. With an Introduction by Col. E. G. Brackett, M. C., N. A., Director of Military Orthopedic Surgery. 12mo of 250 Pages, with 184 Illustrations. Cloth, $2.50, net. W. B. Saunders Company, Philadelphia and London, 1918.

This is a timely work. It treats with much detail many of the new problems which have come to us in the last three years of military life. In orthopedic reconstruction work the complete rehabilitation of the injured man is always the object we have in view. The radical and conservative methods now being evolved as the best for this purpose are well described and illustrated. The work does not deal with those injuries or deformities commonly seen in times of peace. It is limited to those produced by the explosives of modern warfare. Its division into two parts, namely: Treatment at the Front and Treatment at the Base Hospital, makes for convenience and clearness. The most valuable chapters are those on the treatment of bone injuries, injuries to tendons and tendon operations and the aims and organization of the orthopedic reconstruction hospital. FORBES.

Progressive Medicine, Vol. XXI, No. 2, June, 1918; No. 3, September, 1918. Edited by Hobart Amory Hare. Published quarterly. $6.00 per annum. Lea and Febiger, Philadelphia and New York.

The June number contains an article on hernia by Kolle, dealing with this subject in relation to the war, its medico-legal standpoint and diaphragmatic hernia. This is followed by surgery of the abdomen, exclusive of hernia, by Wilensky. He considers at length numerous surgical conditions of the abdomen. Under gynecology, Clark discusses the subject of cancer of the uterus and non-malignant conditions of this organ, about which he has written many times in the past. In addition he deals with pathological conditions of other pelvic organs. In the September number Ewart presents at length a consideration of diseases of the thorax and its viscera, paying particular attention to conditions of the heart and pericardium. Dermatology and syphilis are discussed by Gottheil and obstetrics by Davis. These volumes contain a wealth of information as is always found in this well known SMITH.

International Clinics, a Quarterly of Illustrated Clinical Lectures. Edited by H. R. M. Landis, M. D., Philadelphia. Volume II, 28th Series, 1918. J. B. Lippincott Co., Philadelphia and London.

This volume of clinics contains contributions from eminent physicians in various cities of the United States, France and England. They consider medicine, public health, obstetrics, gynecology, and ophthalmic surgery. Illustrations are profuse and add materially to the text. Combeleran of Toulouse, France, gives an interesting discussion on tuberculosis of the vulva, illustrated by several clinical cases. Primary tuberculosis of the conjunctiva by Ayraud, of the Maritime Health Department, France, consists of a report of a case of this character, followed by a discussion of this very rare disease. The psychological handling of tuberculous patients, presented by Minor of Asheville, N. C., offers useful suggestions for dealing with this class of patients. In this brief review it is impossible to deal with all of the valuable subjects contained in this volume. SMITH.

The Medical Record Visiting List for 1919. Contents: Calendar, Estimation of the Probable Duration of Pregnancy, Approximate Equivalents of Temperature, Weight, Capacity, Measure, etc. Maximum Adult Doses by the Mouth, in Apothecaries' and Decimal Measures. Drops in a Fluid Drachm. Solutions for Subcutaneous Injection. Solutions in Water for Atomization and Inhalation. Miscellaneous Facts. Emergencies. Artificial Respiration. Signs of Death. Hints on the Writing of Wills. Table of Signs. Visiting List with Special Memoranda. Consulation Practice. Obstetric Engagements. Record of Obstetrical Practice. Record of Vaccination. Register of Deaths. Nurses' Addresses. Addresses of Patients and others. Cash Account. For 30 patients a week, $1.50 in red or black morocco; for 60 patients, $1.75; for 90 patients, with dates only $2.25. William Wood & Co., New York.

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ORIGINAL CONTRIBUTIONS

TRAUMATIC HYSTERIA AND ITS RELATION TO CORPORATION EMPLOYEES.*

By W. Brown Ewing, A. M. M. D.
SALT LAKE CITY, UTAH.

The multiform manifestations and the protean types of hysteria often render a diagnosis very difficult. The common acceptation of hysteria only adds to the difficulty, and the often too common belief that an anatomic lesion can be demonstrated or else the patient is malingering only adds to the troubles of the neurologist. When the complex working of the human mind can be completely ferrited out and thoroly understood, then will we understand hysteria, and not till then.

To define it is difficult, so it is with electricity; we only know it by its results. In the realm of pathology it occupies a position in the great field of the unknown which year by year is becoming smaller.

Bailey (Prognosis of Traumatic Hysteria, *Medical Record*, 1901) says that defect must be sought in the neurone systems which have to do with the collection and elaboration of the products of sensorial impressions; in the domain of consciousness and personality. The patient is in the anomalous position of feeling, seeing, hearing, etc., without being aware that he does so. While it chiefly affects the mind and is probably cerebral, whether chemical or morphologic changes underly the alteration in function remains yet to be proven.

Its three great characteristics are (a) lack of control, (b) morbid self-consciousness, (c) simulation.

It is chiefly thru the teachings of Charcot that "hysteria has been shown to be not a mixture of affectation, exaggeration and deceit, but a condition in which the symptoms are involuntary expressions of diseased mental states. These symptoms are not assumed. The paralysis, anesthesia and convulsions of hysteria are as real to the patient as tho they had visible underlying causes."

The traumatic variety—the only one considered in this paper—is perhaps the most interesting and often leads to medicolegal complications. To a jury an hysterical paraplegia is simply "a case of paralysis" due to injury, the liability for which the corporation is seeking to evade and, unless contributory negligence can be shown, the results are apt to be disastrous. To convince a jury that a patient may be paralyzed and yet not be injured is more than most of us are able to do.

Bailey remarks that these patients are not fakers. A fixed idea may disorganize the life of an individual as much as a surgical injury; it may take root so deep that it never can be gotten rid of.

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*Read before Twenty-fourth Annual Meeting of Utah State Medical Association, Salt Lake City. Utah, Sept. 10-11, 1918.

Why hold our corporations responsible for the developmental faults of its employes? The trauma suffices to draw the patient's attention to a certain locality, and the mental state—resembling hypnosis—seems to produce and prolong the functional trouble.

Terrien (*Jour, d, pratic de l'ouest,* 1908) says that traumatism does not create hysteria. Traumatism does not ordinarily create the hysterical accidents in hysteria. The only effect due to the traumatism is to prepare for the hysterical onset by throwing trouble on the nervous system of the patient; by overexciting it, by making it more impressionable, more sensitive and consequently more prone to autosuggestion. This autosuggestion is the great factor in the production of traumatic hysteria.

Maragliano, E., (Gazzetta degli ospedali [Milan] vol. XXI, p. 689) after discussing the view of the French school that traumatic hysteria is only manifested in an individual with an hysterical disposition, and that of the German school which thinks it may show itself when there was no previous taint of hysteria, asserts that in traumatic neuroses there are two groups of effects: (1) those where the trauma gives rise to autosuggestion, (2) those due to alterations which the trauma has effected in the molecules of the nerve elements. In the case he reports the morbid syndrome was not due to the traumatism, but this had favored the outburst of the neuropathic phenomena in a patient predisposed to hysteria.

Is it not altogether possible that the dream-state or the activity of the subconscious mind, which is only a reflection of conscious mental activity, serves to prolong the effect? For many of these patients are essentially dreamers.

Grasset (*Archiv gen. de Med.,* 1903, p. 19) reports the case of a workman of thirty-five years who, seventeen days after severe contusion on the left side, had total left hemiplegia with hemianesthesia. Condition lasted eighteen months. Patient suddenly got out of bed in consequence of a dream. When the conscious mind is at rest, its shadow, the subconscious mind, is also quiescent and recovery follows.

As is well known very few, if any, cases of traumatic hysteria will recover as long as litigation is pending, unless some strong mental impression as anger or fright supervenes to change the whole course of mental activity for a longer or shorter time commensurate with the severity of the attack.

According to Bailey the chances of recovery from traumatic hysteria in a previously healthy person not over thirty-five or forty years are generally very good but not certain. The paralysis, blindness or anesthesia may disappear like magic. Nor does he believe that there is left an unstable nervous system which may show itself in various ways.

What result the employees liability acts will have on traumatic hysteria remains to be seen. Whether the first adjudication of claim and the known fact that monthly payments will follow will act as a stimulus to recovery or delay, that result I am unable to say, but fear the latter alternative.

The severity of the accident gives no indication of the amount of functional trouble that may follow, for often accidents that are trifling in themselves will be followed by severe and widespread results.

In Psychopathology of Hysteria (Fox-Bostan, 1913, p. 175) we find, in reference to traumatism, one should bear in mind that the "accidents" of hysteria are dependent upon the psychic effect of an injury and not upon its physical consequences. In cases of hysterical paralysis following injury it is not unusual to find that the injury was trivial, and that hysterical paralysis may continue after the organic cause has subsided. Indeed very severe accidents, that occur under conditions that render fright a negligible element, are very rarely followed by severe functional neuroses.

That the element of fright enters largely into the causation will hardly be doubted, if you will contrast railway wrecks during the night, when the passengers are asleep, and those occurring during the day when the terrifying character of the accident is fully appreciated.

Perhaps the subject cannot be illustrated in a better way than by citing several cases that have come under observation.

Case 1. M. O., age 26, brakeman. Patient fell from side of box car alighting on his feet, then falling backward to sitting position on loose cinders. Was immediately found to be paralyzed from waist down. No involvement of bladder or rectum.

Patient remained in hospital four months, when he was discharged walking with two crutches and dragging both legs. He reported pain just after the accident and located it over an area bounded by the twelfth dorsal and fourth lumbar vertebrae. Sexual function reported lost.

Ten months, after the accident the patient's condition was as follows: Eyes normal except slight reduction in the field of vision. Patellar reflex normal on left, slightly reduced on right, but on reenforcement both responded normally and equally. Achiles, cremaster and abdominal reflexes normal. No response to tests for Babinski or Oppenheim reflexes. Plantar reflexes absent on both sides. No ankle clonus, no pain or contractures.

The upper border of the zone of anesthesia on the right side began at the level of *second* lumbar vertebra and at the *fourth* on the left, both dropping suddenly as the anterior surface of the body was reached, leaving the external genitalia free from involvement. The line of anesthesia varied slightly during the examination.

Atrophy was no more marked than could be accounted for by disuse. The degree of anesthesia varied from the lines given above down to the knees. Below the knees there was total anesthesia to pain, pressure, touch and temperature sense, and deep pin pricks were followed by minute drops of blood. Sense of position preserved.

Physicians for the prosecution diagnosed hemorrhage into the cauda equinia; the said hemorrhage seeming to manifest a selective action in producing compression on some nerves while others escaped, but this seemed an insufficient explanation for the chain of symptoms and the conditions manifested by examination.

A diagnosis of traumatic hysteria—paraplegic form—was made and testimony so given. Immediately after settlement patient began to improve, first abandoning one crutch then the other, until the end of one year, when recovery was complete.

Will anatomic lesions give such widespread disturbances without regrad to the known distribution of nerves? Is there any cord lesion sufficiently severe to cause paralysis of sensation and motion and yet leave the deep reflex arcs undisturbed?

Case 2. M. F. S., age 39, fireman. Patient was in a wreck in which the engineer was killed and was entered in my service at St. Marks Hospital. He had no marks of external injury but was badly frightened. When brought to the hospital six hours after the accident, he was rigid from head to foot with elbows flexed and held tight against the chest. The rigidity of the neck, arms and hands passed off within a few hours, leaving a well marked paraplegia as a residue, with marked rigidity of knees and ankles. In common parlance the patient was "scared stiff."

Anesthesia (pressure, pain, thermal, muscular) extended down from the first lumbar vertebra in an irregular line on each side to the arch of the pubes, extending to and including the dorsal surface of each foot. The plantar surfaces of both feet reacted to normal stimuli.

Complete anesthesia of external genitalia was present but cleared up during the first week. All eye reflexes appeared normal except that the field of vision was narrowed. The elbow, wrist, cremaster, abdominal, patellar and plantar reflexes responded normally. No Babinski, Oppenheim or Gordon phenomena could be elicited and the bladder and rectal sphincters were under normal control. No disturbance of consciousness at any time.

As the area of anesthesia did not seem to correspond to normal nerve supply, the tone of the sphincters being normal and the deep reflexes reacting to normal stimuli, a diagnosis of traumatic hysteria—paraplegic type—was made. After two days the patient was put in a wheel chair and kept in the fresh air as much as possible.

Suggestive therapeutics was resorted to with varying results. Muscular cramps varying in severity came and went, the line of anesthesia very slowly receded, for a time a hypersensitive area appeared over the lower two-thirds of the left leg and then gradually disappeared, muscular response to faradic current was present, sometimes with sensation, and the paralysis persisted.

Since a settlement was reached I have only hear-say evidence regarding his gradual recovery but I have no doubt of the ultimate result.

Both these cases illustrate the trivial nature of the trauma and the widespread effect of fright. Both patients were dreamers, both were engaged in hazardous employment, neither showed any anatomic lesion, in both the element of fright and the fear of instant death was present to a large extent, and the idea of employers responsibility and prospective damages obtained. In both slight if any improvement resulted till adjustment of claims were made and then recovery followed.

Case 3. A. L. C., age 25, fireman. March 16 he fell on ice striking right hip. No external marks of injury. Next day whole right side was numb and almost total paralysis in arm and leg. March 23 the following condition was found: Right hemianesthesia and paresthesia. Right nasal hemianopsia, hearing in right ear reduced more than one-half; partial paralysis of right arm and leg; right side of tongue and check anesthetic. No system of mathematics could have divided the human body into more perfect halves than the anesthesia in this case. All reflex arcs were found intact and a cerebral involvement was out of the question.

The element of corporation responsibility did not enter into the case; fright was a negligible element and recovery was rapid (about four weeks).

Pitres (Proonice Medicale, Vol. XXVIII, No. 1) states that the anesthesia is not due to interruption of neuron current in the damaged nerve but is the result of a hysterotraumatism which develops at the time of the traumatism.

On the legal phase of the subject White and Jelliffe (Modern Treatment of Mental and Nervous Diseases, New York, 1913) have this to say: To the question as to whether the accident was the cause of the illness one is seldom in a position to answer positively, as one rarely has accurate information, such as afforded by a careful neurologic examination before the injury was received upon which to base a positive opinion; and usually one is forced to state that, if the injured persons were in good health previous to the accident, this would have been an adequate cause and in the absence of other causes probably was the cause.

Neal, A. V. (Ugeskrift fur Laeger. Copenhagen, 47-51), reporting on the ultimate outcome of traumatic neuroses, reviews the experience of accident insurance companies in 189 cases of traumatic neuroses. The trauma had injured the head in 68 cases, but in 100 there did not seem to be any organic injury and the traumatic hysteria was due in large part to the indemnity factor.

Even if these patients do seem to make a more or less rapid and complete recovery, is it wise that they should return to the same kind of employment in which the initial trouble developed?

Ramond, L. (Revue Neurologique vol. XIII, p. 556), reports a case of an old man who developed hysterical hemiplegia subsequent to vaccination. Here autosuggestion was apparent. The patient being vividly impressed by the inflammatory complication was tormented by the fear of becoming paralyzed.

If autosuggestion is a causative factor in traumatic hysteria, may not a second attack come on more easily when a vivid recollection of the first is suddenly brought to the patient by some accident, actual or feared. It is my belief that a recurrence is likely to happen which would subject the patient himself to injury and probably involve the lives of others as well. Personally my strong belief is that these men should be advised to seek other employment in which the hazard is not so great, even at the risk of being thought too strict.

The hysteric who has lost his sexual power is in my opinion a troublesome and probably a dangerous employe for a corporation. Those who seek to collect damages for functional neuroses by resorting to the courts generally eliminate themselves.

FRACTURES—ESPECIALLY AS RELATED TO THE GENERAL PRACTITIONER.*

By J. W. Aird, M. D.
PROVO, UTAH.

Fractures demand the greatest care on the part of the attendant, and frequently exercise his patience, knowledge and surgical judgment to the utmost, nor can good results be attained without the cooperation of the patient. The importance of the subject is evidenced in our daily contact with those who, having suffered such injuries, are for various reasons left with more or less serious and permanent deformities and impairments of function. The subject has been neglected for years, little or no headway having been made along the line of treatment until the last few years, when it was studied first from an operative standpoint, and later from the more rational one of suspension and extension. The subject has received much additional attention during the past four years, due to the frequency of fractures caused by the terrific conflict which is still going on.

Fractures occur in all classes of people and at all ages, occupation and time of life being, however, predisposing causes. It has been estimated that about one-seventh of all traumas of any consequence result in the fracture of bones.

Accurate diagnosis is frequently very difficult without the aid of the x-ray. Indeed, fractures are rare which should not have the aid and advantages of the x-ray for accurate diagnosis, better reduction and after treatment. There is a certain percentage of fractures that are impossible of diagnosis without its use, unless the surgeon brings to bear force that is extremely painful and in many cases dangerous, causing injury to important structures about the sharp and serrated ends of the fragments which he forcibly misplaces.

The well known symptoms, such as deformity, crepitus, increased mobility, or rather mobility where it should not be, together with severe pain on passive motion, accompanied by more or less swelling, serve in most cases in making a fairly accurate diagnosis. But even in a majority of those cases a more accurate diagnosis can be made with the x-ray, which is almost indispensable for reduction and after care. Not that we or the patients themselves expect or care for a perfect anatomic reduction, but the nearer we can approach it the better, as then repair is more rapid, with less callus, pain being materially lessened and the return of function being quicker and more nearly prefect.

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* Read before the Twenty-fourth Annual Meeting of Utah State Medical Association, Salt Lake City, Utah, Sept. 10-11, 1918.

Fracture of the os calsis was seldom diagnosed before the advent of the x-ray. Fracture of the phalanges, carpal bones, tarsal bones, ribs, sternum, scapula and others, all require proper and painstaking care in the way of strapping, splinting, etc. and after treatment. We have the common one of the clavicle which frequently results in some deformity. This I believe is lessened in these cases, if treated by placing the patient in the recumbent position, with restriction of motion of the arm on the affected side. Those treated with Sayre's or Velpeau's bandage, together with some adhesive strapping properly adjusted, will give in most cases a good useful result; but in girls or in those cases anxious for a cosmetic result, the recumbent posture maintained for three weeks or so will be better.

Fracture of the pelvis is perhaps best treated by use of the plaster cast, and need only be mentioned to warn in regard to complications, such as rupture of the bladder or ureter.

Fractures of the skull, vertebra, and the patella are all very important and usually operative, requiring the greatest care in operative procedure. Fracture of the lower jaw is also sometimes operative, which of course may be said of any or all fractures, but usually wiring of the teeth together with the use of a lower jaw splint will answer well. A better method is the use of the interdental splint, if you can have the help of a good dentist.

This brings us to fractures of the extremities, with which all general practitioners have much to do. Buck's extension and Hamilton's long splint have practically been done away with and in their place the various methods of suspension and extension have come. Even fractures of the upper extremities are treated in this way. The same fracture frame suffices for the upper extremity that serves so well in the more rational treatment of the lower.

I have made a fracture frame which is very similar to the one so well described and illustrated in an article written by Major J. A. Blake and Lieut. Kenneth Buckley, in the March number of *Surgery, Gynecology and Obstetrics* of this year. The article is entitled, "The Treatment of Fractures of the Extremities by means of Suspension and Traction," and is well worth reading. Limited time prohibits description of the frame, suffice to say that it is easily and cheaply made. If I recall correctly, the one I made cost me about $3.00 for the material, and a very short time in putting it together. The main difference in it and the one described is that, instead of a trestle with two crosspieces, I simply lashed the four uprights to the bedposts and used one cross piece at each end. Also I have used bolts with washers and thumb screws instead of notching to prevent slipping and to hold frame together. Any position desired can be obtained on this frame, and it answers all the usual requirements.

In the same number of *Surgery, Gynecology and Obstetrics* is an article by Dr. Geo. W. Hawley, of Bridgeport, Conn., describing a universal fracture frame which is made of iron and is much more expensive with but few advantages over the one above referred to. The main advantages are, first, the greater convenience in transportation, and, second, the ease with which plaster casts can be applied.

I have used the principle of suspension and extension in various cases for some time past, especially in fractures of the femur in small children but with inferior apparatus devised at the bedside. Later I used the principle on adults, using apparatus made in the form of a derrick or crane extending from the foot of the bed and up over it. But the fracture frame so cheaply made answers better. That, together with proper splints, such as the Hodgen's, of which I have a modification in different sizes of rights and lefts, made cheaply by one of our local blacksmiths, together with the Thomas splint or one similar, answers well for fractures of the lower extremities. A small iron splint or cradle splint made of wire on the same principle for suspension of the forearm, combined with proper and necessary pulleys, weights, etc., makes a fairly complete equipment for treatment of fractures of the extremities.

There is a useful splint illustrated and described in the February, 1918, *Annals of Surgery*, by Dr. H. T. Buckner, of Seattle, Wash. With its use traction can be obtained without suspension and the necessity of lying in bed. It is designed for fractures of the forearm, and is very useful in compound fractures or where the fracture is accompanied by wounds of the forearm or elbow requiring frequent dressings. In this respect it is equal to the suspension and extension method of treatment, which is one great advantage over older methods of treating fractures of the long bones.

This method gives relaxation to the muscles which tend to pull and cause misplacement of fragments and consequent deformity. It affords a correct, easy position for the limb, with the necessary extension improves the circulation, soon doing away with the swelling and water-logging met with in the older methods of treatment. It gives much more comfort to the patient, to say nothing of the ease with which patient and bed can be kept clean. Use of the bed-pan is made easier and there is practically no pain on dressing wounds. It requires less help from nurses or attendants, thruout the day and night, as well as while dressings are being done. Such advantages, together with better anatomic and functional results, have served to stem the tide against operative interference in fracture cases as a routine measure.

Just here let me say that the operative treatment is in some cases indispensable. I have had some cases in which reduction seemed impossible without cutting down on and liberating interposing soft tissue. Others, again, seemed to absolutely require the open treatment for application of screws, nails, wire, Parham band, Lane's bone plates, bone grafts or something of that nature to maintain them in correct position. Let me say also, that I now hesitate to use any of the former named appliances except the autograft applied in the best possible shape to produce results, feeling that sooner or later the foreign material will have to be removed, and I think should be removed as soon as its purpose is accomplished.

I have had splendid results with bone pins and various kinds of bone grafts, having used them to a greater extent as bone grafts for non-union than for holding the fragments in apposition. This class of work should not be undertaken by the general practitioner, but he should know what can be done and the probable results in such cases. In fact, I would caution the general practitioner against treating any fracture with the open method that he can reasonably avoid.

Another warning which should be given, which Dr. J. C. Landenberger gave us six years ago at one of our Ogden meetings, to invariably immobilize both the proximal and distal joints in all fractures. His opinion was that removal of splints too soon, and the failure to immobilize the joint above and below the fracture are common causes of delayed and non-union.

Compound fractures may perhaps best be considered, from the treatment viewpoint, as fractures with complications. If the case be seen early, say within five or six hours, good results can usually be obtained by cleansing the wound thoroly, removal of all foreign material, cutting away all tissue that looks as tho it may necrose, and disinfecting the wound with a solution of 20 per cent. argyrol, first cleansing the skin and painting it with tincture of iodine. This work is preferably done under spinal anesthesia, as it ameliorates existing, as well as prevents additional shock. By the use of spinal anesthesia a limb requiring amputation need not have the operation deferred on account of shock, as used to be properly advised.

In operating on cases of compound fracture, which always should be done with the utmost care and thoroness, a large enough incision should be made to insure proper cleansing of the wound and adjustment of the fragments. Closing with a rubber drain for twenty-four hours, or not to exceed forty-eight, if the case be doing well, will be all that is required in addition to the usual fracture treatment. Much the same treatment should be followed if the case be seen later, say from six to eighteen hours. In addition remove all tissue that you think may have become infected. Later than that, or certainly after twenty-four hours, the least done the better, outside of the removal of all foreign material, adjustment of the fragments, making and keeping ample open wound area for thoro cleansing and after treatment which consists of the use of the Carrel-Dakin method or some other form that will cleanse and tend to limit infection. Were it not for the expense, I feel that the same deep, thoro and frequent flushing with argyrol solution, 10 or 15 per cent. would accomplish more than the Dakin solution.

There is not a sadder or more serious complication of fractures than a fatty embolism severe enough to cause death. It is caused by the fat globules of the marrow cavity entering lacerated or torn veins. Its occurrence is quite common, as may be seen on examining the urine, it containing fatty globules in many of these cases for several days after the injury. This as a rule means little to the patient but, if a goodly number of the fat globules collect in some important artery that supplies the lung or brain, blocking the circulation, a most distressing picture develops at once. I have had one such case. If it be an embolus in a cerebral vessel, as in my case was, sudden delirium, later coma, threeady, irregular, rapid pulse, collapse and usually death within twenty-four to thirty-six hours follows. Little or nothing can be done by way of treatment save supportive measures and such as is usually administered in shock.

THE USE OF THE THOMAS SPLINT.*

By E. F. Root, M. D.
SALT LAKE CITY, UTAH.

My reasons for presenting this subject at this time are, first, it is the one most used by the armies and, therefore, probably best adapted to fractures in general, as they occur in the army; and, second, if best for the army it should be more generally applied in civil practice.

Dr. Bloodgood has reviewed the literature of fractures in Progressive Medicine and devotes a great deal of space to the management by the use of the Thomas splint as adapted by Col. Robert Jones, of Liverpool. Col. Jones has full direction of military orthopedics of the British Army under the Surgeon-General. He, therefore, is in position to use whatever means are best adapted to the treatment of fractures in the army.

The Thomas splint is not new. It was used by Thomas and his followers a generation or two ago and has steadily grown in favor until the present war, when it was found to cover a larger range of possibilities than any other means. Its construction is simple, its adaptability almost universal. It is absolutely clean and not cumbersome.

Last year when I attended the Surgical Congress I was especially interested in finding out what means would be most in evidence for the control of fractures by the army. The Thomas splint seemed to be the one most spoken of and recommended.

When I was in school I was taught that the splint must be adapted to the case and not the case to the splint. In other words, each case must have an apparatus accurately fitted and the surgeon must have mechanical ingenuity sufficient to produce accurate and permanent adjustment of the fracture, while placing the patient in the most comfortable conditions for the long ordeal of healing of the bone. This means that no expensive and cumbersome set of splints can be ready made and on hand for any case that may happen.

Every fracture requires accurate adjustment and rigid maintenance but, as far as possible, the patient must have freedom of movement excepting the injured part. With the heavy or cumbersome apparatus so often used the patient is condemned to one position for weeks or months and often a long while will be needed to clear up the bad effects of the confinement. The Thomas splint can be made to fit the case very easily, costs little and one need not have a supply on hand for one can be made quickly in any blacksmith shop.

In a general way it consists of a ring of iron about the limb with a quarter inch steel wire extending around the extremity and welded to the ring. This for the extremities. The ring is wound with a pad and bandage is stretched across for the limb to rest on. Extension can be applied to the extremity and fastened to the lower end of the splint. With this on the patient can often be ambulatory at once with any part of the limb. For instance, a wound can be gotten at for treatment without disturbing the limb or splint. It can be maintained clean, and the patient also.

Jones does not absolutely condemn plaster but sees very little need for it, as it is heavy, uncomfortable and very filthy. Weights and pulleys can be largely done away with when the Thomas splint is used, on account of making extension directly on the splint and any desired angle can be secured to get the adjustment. It is ideal for support where any kind of appliance is used to fasten the fracture together, such as plating, banding or inlay; or in the treatment of injured joints where it is desired to immobilize. A joint may be set at any desired angle or a change in the position can be easily made.

The upper extremity can be treated by this splint equally as well as the lower. For instance, extension can be applied to the humerus only, to the fore-arm only, or to both at once. When the splint is applied to fracture of the leg the only pressure comes on the ischium, a part accustomed to support pressure. So there is little danger of pressure necrosis.

In fracture of any part of the arm or forearm the pressure comes in the axilla as a crutch and in either case the skin may be moved under the pressure often enough to avoid pressure necrosis.

In fracture of the pelvis or back good immobilization can be secured by extension upward with suitable bands of thin iron about the body. Good immobilization of the trunk and legs can easily be secured by a double apparatus extending up the back and by hinging one or both legs may be carried to any desired angle.

For transporting a fracture case it is an easy matter to slip on a Thomas splint over clothing and all, fix the limb and make the patient comparatively comfortable for the journey. For instance, a fractured arm may be secured with proper extension to prevent motion by a simple ring at the shoulder with the wire extending beyond the hand.

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* Read before Twenty-fourth Annual Meeting of Utah State Medical Association, Salt Lake City, Utah, Sept. 10-11, 1918.

For treatment of hip-joint disease Thomas originally designed the splint. While it produces good fixation it has the distinct advantage of cleanliness and any part of the limb is accessible for treatment; consequently, the splint may be worn by the patient for an indefinite period with minimum bad result to the tissues.

Quoting from Bloodgood's review, he says, "All of my students writing from the first dressing station behind the British lines speak of the Thomas splint as a life-saving appliance."

Jones remarks that he has often fixed a fractured thigh in this splint and sent the patient home in a cab. He employs the Thomas splint for all fractures in the middle and lower third of the thigh, in the region of the knee joint and the upper and middle third of the leg.

The application of this splint is easy. Adhesive straps are applied in the usual way for extension. Thru the lower end of the adhesive strap extension there is attached a loop of webbing. The adhesive straps are fixed with the usual bandage. The splint is then applied over the foot and adjusted. The foot must be kept at a right angle. Now local splints of block tin or sheet iron can be molded over the fracture. The advantage of the latter is that the splint can be disinfected by heat, fire or water.

In some cases screw extension can be applied. Especial attention should be given to the perineum to keep it and the leather covered ring clean.

Lyman says that at the front they do not remove the patient's clothes or shoes but put the splint right on the limb, use the shoe for extension, cut the clothes, cover the wound with sterile gauze bandage and transport the man to the rear at once.

Modifications of the Thomas splint can be made to apply to almost any part of the body. For instance, skeleton splints can be made from sheet iron and bands for the hands and feet by which the part may be maintained in any desired position. Drop wrist or foot may be easily held in position, not causing pain or much inconvenience to the patient.

If this method of retaining fractures is adopted as the simplest and therefore best for the army, it will surely find favor in civilian practice. I have used this method in quite a range of fractures and diseases of bones and am so far very well satisfied with its adaptability.

THE INTENSIVE VACCINE TREATMENT OF LUNG COMPLICATIONS IN THE PRESENT EPIDEMIC OF INFLUENZA.

By E. O. Houda, M. D.
TACOMA, WASH.

There probably has been no previous epidemic, in which almost every physician has taken a very intense active part, as in the present one. Uncomplicated the disease ends by a rapid lysis about the end of the third day. The complications seldom become evident before this period.

Without going into a discussion of the disputed etiology of the disease, I wish to report the results of a very intensive vaccine treatment which has been used with remarkably satisfactory results. The institution of this treatment was prompted by the following considerations: Practically all cultural reports show a preponderance of streptococcal infection with the pneumococci running next in frequency. The cultural reports to which I allude are cultures taken not from sputum and the bronchi but from lung tissues. The cultures from sputum and bronchi are almost invariably mixed, while those from the lung sections are usually of one type. While sputum findings have a relative weight in considering the probable type of pneumonia, it is far from being absolute.

Leucopenia is almost an invariable rule in the onset and during the course of an uncomplicated influenza of the present type. A leucocytosis after the three day period, with persistence of fever and particularly a rise in the pulse rate above one hundred after the fourth and fifth day, has shown usually a recoverable type of complicated influenza. A leucopenia at this period has almost invariably developed into a fatal type of pneumonia. These fatal types with leucopenia have all shown an intense septic state with marked cyanosis; entirely out of proportion to the discernable lung involvement. These cases die, as an elderly family physician remarked, "with puerperal fever."

Sections from lungs in a typical case have shown an intense interstitial involvement, in which the streptococci are found in great numbers. For lack of a better pathologic differentiation, these cases are called bronchopneumonias, but I believe this classification is incorrect, at least in the earlier days of the disease. At the postmortem table this classification is correct, but before the final pathologic changes take place, especially in the developing first few days, this pathology is not present.

The multiple abscess findings in these cases, being more advanced in the hilus of the lungs where necessarily a more intense infection in centralized, are paralleled by the localization of abscess formations in the extremities in cases of streptococcus infections, especially of the pyogenes type. In the latter there is at first a diffuse lymphatic involvement, from which the streptococcus may be recovered at any point with a late final pathologic picture of multiple abscesses. These abscesses form in tissues whose resistance is the least, viz., connective tissue. There will be considerable dispute between clinicians and pathologists based upon this question of time. There certainly is a most fertile field for dispute.

With certain very careful and painstaking laboratories showing positive blood cultures running as high as 50 per cent., with bacteria which show delicate cultural characteristics, the question seems plausible that the rapid development of this type of pneumonia may be due to filtration of bacteria from a general septicemia. It is very singular that all leucopenic states are complicated with pneumonias, the three chief types being tuberculosis, typhoid fever and influenza, pernicious anemia and leukemia included. The latter has an absolute polymorphoneuclear leucopenia. Bubonic plague is also included in this class and in particular is associated with the highest pneumonic mortality rate, almost 100 per cent.

From clinical observation, which is the main guide in the determination of efficacious treatment, it seems that any toxin (and this includes the toxin of Pfeiffer's bacillus) which induces this leucopenia, so paralyses the forces of resistance that any virulent bacteria present in the respiratory apparatus set up an infection, which develop the usual signs of consolidation, etc.

Upon the showing of an intensive treatment for the streptococcic pneumonia of last year, which had almost indentical features of the present epidemic of influenza pneumonia, I wish to report results of this treatment which seems almost specific. In the selected cases, in which treatment was used, there has been no death to date, and in all there has been a rapid convalescence. Only selected cases which were seen early in the disease are included in this report. In cases where this treatment was used, which came under observation or treatment late, the results were little better than usually found with the old expectant treatment. Those in the profound stage of septic intoxication, with relative and absolute low temperature, rapid pulse rate and marked cyanosis, nearly all have died. Only one case of this type responded and recovered, with diminution of all signs taking place at the end of the third day after beginning of intensive treatment.

The selected cases were those which come under the following general symptom complex: After the first three day interval there was a persistent temperature above 100° and the pulse rate rose above 100, with an increasing cough but little expectoration as the rule, and a variable degree of sore throat. Usually on the fifth day, with temperature and pulse increasing, an examination of the chest showed a shower of crepitant rales, appearing first in the base of the right lower lobe and in the left side the next day. On the sixth day careful examination of upper lungs elicited feint solitary crepitant rales. When these diffused rales would appear, the site of the original rales in the lower right lobe would give evidences of tubular breathing with dulness, in spite of the fact that the intensive treatment was instituted a day before.

Every case of influenza, with persisting evidences of active disease after the fourth and fifth day, was treated as a potential pneumonia and all of them had the findings which preceded the typical evidences in the fatal cases, so that there was no question but untreated they would have developed into the severe types of pneumonia. In all of these beginning pneumonias the usual influenza symptoms were present and all of them had a leucopenia.

The intensive vaccine treatment consisted of twelve-hourly injections of a sensitized pneumo-streptococcus vaccine with a total content of 2,000,000,000 of each bacterium, this dosage being given each night and morning until positive evidences of defervescence took place. These evidences usually showed before the fourth dose was given. In no case were more than four doses given. At the end of forty-eight hours there has been a marked decrease in the temperature, with a corresponding drop in the pulse rate. After seventy-two hours in all of these selected cases, the general condition of patients is very similar to the post-critical state of the regular croupous pneumonia. Those who have had consolidation with tubular breathing and dulness still present these signs. These persisted for as long as two weeks before clearing up entirely, with no temperature and normal pulse after the first forty-eight to seventy-two hour period.

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EDITORIAL

RECURRENCE OF INFLUENZA

After the trying experience with influenza during the past two months, the public breathed more easily when the universal ban was lifted and the belief prevailed that this wide-spread epidemic had run its course. Scarcely had this general confidence been generally accepted, however, when there began a recurrence of the epidemic to a somewhat isolated extent, at first, which of late has again become almost universal. While it was thought that the strenuous methods for combating the disease had proved successful, the question is now commonly asked whether these methods of prevention were relaxed at too early a period or were they insufficient to stamp out the epidemic. The reported wide-spread diffusion of influenza for a second time in Europe justifies some apprehension as to whether the winter months are to witness a similar condition in our country. In fact, the prohibition of public gatherings and the closing of places of assembly have already been enforced for a second time in some localities, altho the disposition for such extreme measures does not seem commonly to prevail.

In the treatment of influenza and subsequent pneumonia, there seems a strange aversion to open-air treatment on the part of many physicians and the general public. This is commonly impressed upon the observer who enters private homes and many times in hospital rooms occupied by one or more patients, where he often observes closed windows or the admission only of a minimum quantity of fresh air. One would suppose that the medical profession had by this time been thoroly convinced of the importance of fresh air in the successful treatment of acute conditions of fever. It seems a strange contradiction for an attendant to smother a struggling pneumonia patient with an excess of artificial oxygen from a tank before a closed window, while an abundant supply of nature's oxygen is available thru the same open window. Some striking figures have been presented bearing on this point. In a small hospital near Boston, in which 87 patients were treated during the recent epidemic, 29 of this number died. At an out-door hospital in the city of Barre, 4 patients died out of 114. In a general hospital in a city near Boston, where 76 patients were treated, 20 died within three days and 17 nurses came down with the disease. On the other hand, at the first tent hospital in Boston, where 351 patients were treated, only 36 died. Altho the figures are not complete, where they have been analyzed statistics show a mortality of from 30 to 50 per cent. in influenza and pneumonia cases treated in the wards of general hospitals, while in out-door camps the mortality has ranged from 5 to 14 per cent. Such figures ought to be a convincing argument in favor of wide-open windows in wards and the sick room, where out of door treatment is not available.

CONGRESSMAN JOHN W. SUMMERS.

So unusual is it for a physician to successfully venture into the realms of the highest ranks of politics, that the victorious outcome of one's candidacy for the United States House of Representative calls for more than passing comment. The campaign conducted during recent months by Dr. John W. Summers, of Walla Walla, for election as Congressman succeeded in placing him in the halls of Congress for the two coming years. Such a great honor confers distinction on the whole medical profession, since the election of one of its members to the United States Congress has occurred very rarely. Congratulations are to be extended, not only to Congressman Summers, but also to the State of Washington, in having as one of its representatives at the National Capital a man of the high character and sterling principles which he possesses. It is particularly fortunate for the future interests of the public health of the nation that a man of his qualifications has been selected as one of the national legislators. We trust that Dr. Summers may be enabled to exercise his talents in helping to shape future health legislation on sane and scientific lines, for which there has at times in the past been an urgent demand.

MEDICAL NOTES

Additional Army Commissions. The following names have been received of physicians who have been commissioned in war service. These names have not hitherto been published in this journal:

OREGON.

Medical Reserve Corps, U. S. A.

Amos, W. F., Portland.
Anderson, W. R., Portland.
Bennett, E., Monroe.
Bridgewater, J. E., Albany.
Brooke, B. R., Portland.
Byrd, P. W., Salem.
Campbell, W. M., Portland.
Canfield, H. A., Drain.
Cantrill, A. H., Portland.
Cathey, G. A., Portland.
Coe, N. C., Bend.
Denman, H., Crane.
Dixon, O. C., Gold Hill.
Gilmore, T. M., Imbler.
Haile, H. B., Madras.
Henton, G. E., Portland.
Hosch, J. F., Redmond.
Karkeet, R. B., Portland.
Kavanaugh, J. H., Pendleton.
Miller, R. B., Lebanon.
Moore, C. C., Portland.
Moore, R. V., Portland.
Mount, G., Oregon City.
Neulen, E. N., Portland.
Payne, R. A., Portland.
Pettit, J. A., Portland.
Phy, W. F., Hot Lake.
Rattner, C. G., Portland
Roseman, B. F., Elgin.
Rosenberg, J. J., Portland.
Sabin, C. G., Portland.
Sheldon, S. H., Portland.
Smith, J. E., Portland.
Soule, A. A., Klamath Falls.
Wellington, R. H., Portland.
Wiley, J. O. C., Portland.
Williams, C. L., McMinnville.
Ziegler, F. J., Portland.

WASHINGTON.

Medical Reserve Corps, U. S. A.

Adams, O. L., Davenport.
Ashley, E. M., Spokane.
Ballance, C., Seattle.
Davis, F. P. C., Kelso.
Duncan, C. R., Wapato.
Fullerton, L. A., Seattle
Green, J., Tarowan.
Greenwald, H. A., Kettle Falls.
Heg, E. E., Kent.
Henry, B. D., Endicott.
Hilscher, F. W., Spokane.
Hopkins, S. B., Spokane
Hughes, A. P., Spokane.
Irwin, P. C., Seattle.
James, R. J., Seattle.
LaGasa, J. A., Tacoma.
Leard, Warren, Camas.
Long, L. D., Seattle.
Matthews, A. A., Spokane.
McKeown, A. R., Leavenworth.
Munsell, W. M., Grandview.
Northrop, E. R., Spokane.
Renfro, L. W., Seattle.
Rickards, E. A., Seattle.
Rigg, C. F., Spokane.
Roach, L. S., Mt. Vernon.
Rott, O. M., Spokane.
Rusk, Monroe.
Schulz, A. W., Tacoma.
Schwabland, W. T., Spokane.
Slyfield, F. N., Seattle.
Smythe, E. L., Bremerton.
Thiel, H. F., Creston.
Tullar, A. G., Kennewick.
Turpin, C. H., Seattle.
Van Pelt, R. S., Tacoma.
Weir, C. H., Yakima.
Wurdemann, H. V., Seattle.

U. S. Naval Reserve Corps.

Beistel, M. J., Pullman.
Tewey, D. E., Quincy.

IDAHO.

Medical Reserve Corps, U. S. A.

Bloom, O. E., Hill City.
Boucher, F. E., St. Anthony.
Drysdale, W. T., New Plymouth.
Field, E. H., Jerome.
Gibson, F. C., Bovill.
Hanmer, C. F., Salmon.
Hunter, W. E., Pocatello.
Killey, V. R., Rupert.
McKinnin, M., Sandpoint.
Melton, H. E., Menan.
Newberry, A. A., Filer.
Parkinson, G. T., Rexburg.
Scott, C. R., Twin Falls.
Simmons, H. J., Blackfoot.
Spencer, H. D., Idaho Falls.
Stackhouse, C. P., Sandpoint.
Weaver, C. D., Twin Falls.

UTAH.

Medical Reserve Corps, U. S. A.

Beardsley, W. J., Park City.
Estes, F. E., Standardsville.
Forbes, H. B., Ogden.
Howells, T. J., Salt Lake City.
Maghee, G. H., Salt Lake City.
Mossler, W. H., Modena.
Seidner, M. J., Ogden.
Sutherland, W. L. Storrs.
Ulman, S. J., Salt Lake City.

OREGON.

Oregon Troops the Cleanest. According to a telegram from Surgeon General Blue, the Oregon troops were cleaner physically than those from any other state. Only .59 per cent. of the men enlisted from this state were infected with venereal disease. This was the lowest rate for the entire U. S. The highest rate from one of the other states was 8.9 per cent.

Dedication of Service Flag. At one of its meetings last month the Portland City and County Medical Society dedicated its service flag with 113 stars. The military character of the meeting was completed by the reading of a paper on The History of Medicine, by Dr. J. M. Short and one on The Medical Profession and the War, by Charles H. Carey.

Isolation Hospital Legalized. Last month suit was brought in the circuit court in Portland by two women who claimed they were illegally deprived of their liberty at the Kelly Butte detention home. They attacked the validity of the city ordinance providing for the isolation of patients afflicted with venereal diseases. The judge held that the authority which exercised such control is well within the police powers of the city and the interests of the public health demand such legislation.

Commissioned Colonel. Dr. Robert Yenny, of Portland, who went to France in charge of Portland Hospital Unit No. 46, has been promoted from Major to Lieutenant Colonel. Dr. Yenny's many friends in the Northwest are gratified at the distinction conferred upon him.

Lady Physician Convicted. Dr. Marie Equi, of Portland, was last month found guilty by a jury of violating the espionage act. As member of the Industrial Workers of the World she had referred contemptuously to American soldiers, being found guilty on all of five points for which she had been indicted. Former Governor West testified in her behalf while Mayor Baker of Portland was witness against her.

In Charge of Campaign Against Venereal Diseases. Dr. A. C. Seely, Secretary of the Oregon State Board of Health, has been appointed representative of the U. S. Public Health service, to take charge of the campaign against venereal diseases.

To Serve in Siberia. Dr. H. J. Clements, of Salem, has joined a commission of the American

Red Cross which is to sail for Vladivostok and serve in Siberia. Dr. J. O. Matthis, of Willamina, has located in Salem and will have charge of the practice of Dr. Clements during his absence.

Dr. J. O. Robb, of Hillsboro, has returned home to resume practice after service as First Lieutenant at Camp Lewis.

Dr. J. F. Wood, of Portland, Captain, M. R. C., has been ordered to France from Camp Lewis where he has been located for some time.

Dr. J. M. Lowe, formerly of The Dalles, has moved to Marshfield where he will continue practice.

Dr. E. A. Sommers, of Portland, Captain, M. R. C., was ordered late last month to Allentown, Pa., to prepare for embarkation for overseas duties.

Dr. Hewitt, of Independence, has located in Portland to care for the practice of Drs. Bodine and Cantril during their absence in army service.

Dr. G. A. Massey has moved from Salem to Klamath Falls, where he will continue practice.

Dr. H. M. Robbins, who has been practicing at Dayville, has located in Mitchell.

WASHINGTON.

Influenza Among Alaska Indians. It is reported that influenza is working great ravages among the Indian villages of Alaska. Past Assistant Surgeon Krulisch, of the U. S. Health Service, sailed from Seattle last month with ten physicians and an equal number of Red Cross nurses to extend help to the Alaska Indians. Assistance for these people was requested by Governor Riggs since no adequate aid was available in Alaska.

Camp Lewis As a Convalescent Hospital. It is reported that the Base Hospital at Camp Lewis will become a permanent institution for convalescent soldiers from overseas. Those whose homes are in the western states will be sent directly to Camp Lewis. It is anticipated that the hospital facilities will be all needed for the treatment of these patients.

Nurses Needed for Small Communities. An urgent appeal was sent out last month from Red Cross headquarters for trained nurses in small communities of the Northwest. It was stated many deaths were unavoidable on account of lack of nursing in these localities.

Doctor As Alien Enemy. Last month Dr. Paul Woerner, a well known physician of Aberdeen, was arrested by Federal authorities as an alien enemy, his arrest being caused by the fact that he was unsafe to be at large. He was born in Germany and has resided in this country for nine years. He was ordered interned at Fort Douglas, Utah.

Red Cross Hospital. The hospital at Marcus, which has been the property of Dr. Goss, of Northport, and has been closed for six months, was turned over to the Red Cross and has been utilized for the reception of patients.

High School Used for Hospital. During the influenza epidemic the High School at Pullman was utilized for a hospital, the auditorium being adapted for a ward room and the stage being made into a small ward. This use of the school saved the situation for the town.

Woman Appointed Health Officer. Dr. B. S. Cerswell, Yakima County Health officer, has appointed Mrs. Margaret Badger, wife of a druggist, as health officer for Granger. This town being without a doctor it was necessary to call in the laity. The lady health officer being a graduate nurse seemed qualified to handle the situation.

Society to Combat Venereal Diseases. Last month the Pierce County Social Hygiene Society was formed in Tacoma to combat venereal diseases and promote a campaign of education on sex matters. It was formed along the lines of a similar society in Oregon, which has attained marked success in its campaign against venereal diseases. Its officials comprise leading physicians and business men of the city.

Army Promotions. Dr. C. E. Butts of Spokane, now serving in France, has been promoted from the rank of major to lieutenant colonel. Dr. J. C. Graves, of Spokane, who went to France as captain, has been promoted to a majority. Dr. Walter Kelton, of Seattle, who has been in France since the summer of 1917, has also been advanced from captain to major. Dr. Ralph Hendricks, of Spokane, who enlisted with Dr. Lambert's Hospital Unit as first lieutenant, was promoted some time ago to the rank of captain and recently has been given the rank of major. Dr. E. F. Mertz, of Concrete, who has served as first lieutenant at Camp Mead, has been promoted to rank of captain.

Prosecuted for Illegal Practice. At Sedro-Woolley last month a considerable stir was produced by the frequent arrests of Dr. J. H. Montgomery for practicing medicine without a license. The prosecuting attorney vigorously carried out the requirements of the law in an impersonal manner in prosecuting this physician who notoriously and openly violated the provisions of the law. It was stated the doctor joined the relief expedition sent to Alaska to treat influenza of the Indians, with the expectation of renewing his fight to practice in the state on his return.

Wounded in Leg. Captain M. R. Charlton, formerly of Spokane, who joined the service in July, 1917, was confined to a hospital in France last month recovering from a wound in the leg received in September, while attending a wounded soldier in a shell hole.

Dr. H. V. Wurdemann, of Seattle, recently commissioned Captain, M. C., U. S. A., has been appointed chief surgeon, eye department, Camp Lewis.

Dr. W. V. Gulick, recently assistant superintendent Western State Hospital, Steilacoom, has given up his connection with that institution and is located for practice in Seattle.

Dr. Wm. Van Patten, of Walla Walla, has been appointed to the U. S. Public Health service and has been stationed at Seattle.

Dr. R. W. Tennant, formerly of Spokane, who has been engaged in U. S. Public Health service in Utah, has returned to his home city.

Dr. Minnie Burdon, of Anacortes, has been appointed Contract Surgeon in the U. S. Army and has been assigned for duty at Camp Douglas, Utah.

Resigns as Health Officer. Dr. J. E. Vanderpool, of Walla Walla, has resigned as city health officer, owing to the press of private duty. Unless a city pays an adequate salary it cannot expect the services of competent health officials.

Dr. Harriet Clark, of Seattle, sailed from New York for France early last month under the auspices of the Red Cross, to work in behalf of women and children in devastated villages.

Dr. D. R. Dodd, formerly of Seattle, has located in Pe Ell to care for the practice of Dr. W. R. Johnson, who entered the medical department of the Naval Reserves.

New Health Officer. Dr. C. S. Bumgarner, of Davenport, has been appointed County Health Officer to succeed Dr. O. L. Adams, who entered military service.

Dr. W. W. Ashley, of Ione, has located at Davenport, where he has taken the practice of Dr. O. L. Adams.

Dr. W. T. Miles, formerly of Seattle, has located for practice at Sedro-Woolley.

Medical Wedding. Dr. Elmer E. Heg, of Kent, formerly of Seattle, was married last month to Mrs. Evelyn R. Sampson, of Riverton. Dr. Heg recently commissioned major, M. R. C., was assigned to duty at Camp Jackson, S. C.

OBITUARIES.

Dr. H. E. Jones, of Portland, Ore., died Nov. 9 from disease of the heart, at the age of 81 years. He was born at Steuben, N. Y., in 1837. He prepared for College at Whitetown Seminary, but during this time joined the army in the Civil War. At the battle of Gettysburg he sustained injuries which caused partial deafness. Entering as a private, he was mustered out as major. At the close of the Civil War he studied medicine, entered the regular army and was assigned to Fort Stevens in 1874. Six months later he located for practice in Portland, which he continued until twenty years ago. He had a very wide reputation and was one of the best known citizens of Portland. He was prominent in the establishment of St. Vincent's Hospital and was its surgeon in charge from 1877 to 1885. He was beloved for his good deeds, his affectionate nature and tender disposition.

Dr. C. C. Moffat, of Prosser, Wash., died Oct. 29 from pneumonia following influenza, after an illness of a week. He was born in Seneca, N. Y., in 1883. His family moved to Davenport, Wash., in 1889, where his boyhood was spent. He graduated from the Pharmaceutical Department of Washington State College at Pullman, in 1905, and located in Prosser in 1914. He graduated from the Medical Department of the University of Oregon and returned to Prosser for residence. Since that time he became well established in the practice of medicine and had made his influence felt in a wide circle.

Dr. Millard Harrison died at Port Angeles, Wash., Nov. 1, after an illness of two weeks with pneumonia. He was born in Mississippi in 1850. He graduated from the Louisville Medical College and later from Rush Medical School of Chicago. For twenty years he practiced in Colorado and for a short time in Arkansas. Later he practiced for several years in Seattle and settled in Port Angeles in 1912.

Dr. Samuel Goodlick died at North Bend, Ore., Nov. 8, from pneumonia following influenza. He was lieutenant, M. R. C., U. S. A., and was stationed in the North Bend district in army service. During the worst days of the influenza epidemic he spent his entire time among the lumber camps of that territory, himself contracting the disease.

Dr. J. M. Kerr, of Spokane, Wash., died Nov. 29 at Good Samaritan hospital, Portland, from pneumonia. He was traveling with his family by automobile to California to spend the winter when stricken by the fatal illness. He was 48 years of age and formerly practiced in Portland, moving to Spokane two years ago.

Dr. Alexander Cairns died at Coeur d'Alene, Idaho, Nov. 15, from pneumonia following influenza. He was born in Scotland fifty-one years ago. He came to America at an early age and later entered St. Louis University, graduating from its school of medicine in 1890. He practiced in Coeur d'Alene for the past six years.

Dr. I. W. Starr, died at Brownsville, Ore., Nov. 7, after a sudden attack of heart disease. He was 65 years of age and prominent pioneer of Brownsville. He was well known thruout the Willamette Valley during a period of forty years of practice.

Dr. J. G. Swensson, of Portland, Ore., died November 21 in an automobile on the way to the Emergency Hospital, after a sudden illness on the street.

REPORTS OF SOCIETY MEETINGS

UTAH STATE MEDICAL ASSOCIATION.

REPORT OF THE TRANSACTIONS OF THE HOUSE OF DELEGATES OF THE TWENTY-FOURTH ANNUAL MEETING OF UTAH STATE MEDICAL ASSOCIATION, HOTEL UTAH, SALT LAKE, CITY, UTAH, SEPTEMBER 10-11, 1918.

SEPTEMBER 10, 12:00 NOON.

Dr. Fred Stauffer, President, presiding. Dr. W. Brown Ewing, Secretary. President Stauffer called the meeting to order.

The first order of business being the reading by the Secretary of the minutes of the last meeting, Dr. W. Brown Ewing made a motion that, inasmuch as the minutes of the last meeting have been published in full and distributed to each member through the journal, and the custom in the past has been to omit the reading of the minutes, the reading of the minutes be dispensed with. The motion was seconded by Dr. T. F. H. Morton and unanimously carried.

Report of Secretary.

To the House of Delegates:

Since our last meeting the routine business of the Association devolving upon the Secretary has been transacted.

The number of component County Societies remains the same as last year, and all have renewed their standing by the payment of the annual assessment except Sanpete County, which stands suspended.

The number of members in good standing at the 1917 meeting was as follows: Cache Valley 10, Salt Lake County 163, Sanpete County 16, Uintah County 6, Utah County 27, Weber County 34, making a total enrollment of 256 and showing a gain of eight over the previous year.

This year the enrollment is as follows: Cache Valley 10, Salt Lake County 174, Sampete County 0, Uintah County 7, Utah County 28, Weber County 33, making a total enrollment of 252 and showing a decrease of 4.

The Secretary's suspended list carries 23 names, the majority from Sanpete County Society, some of whom may yet renew their membership by the payment of their annual assessments.

The State Legislature will meet in January of next year and we may expect the usual number of bills and resolutions having as their object the lowering of the standard of medical education. Your Secretary would suggest the appointment of a very strong Committee on Public Policy and Legislation by the incoming President, in order that the members of the Legislature may be advised relative to the standing of medical education in Utah. I trust no one may have cause to say, with the educator, "Anyone can practice medicine in my state except the fellow who is qualified."

At our last meeting Dr. T. J. Howells was elected Delegate to the American Medical Association, but on account of not being a member was ineligible to a seat in the House of Delegates. The Council, therefore, at a special meeting, continued the term of service of the former Delegate, Dr. Sol G. Kahn, for another year, or till the next meeting of the Association.

For the second time, the U. S. Army has taken our Treasurer, and the Councilor of the Second District, Dr. T. C. Gibson, has been compelled to take over the duties of this office.

Many of our members have entered the U. S. Army. Some are serving their country with credit across the seas; others, with equal credit, are serving in this country and anxiously awaiting transfer to overseas duty. Still others have shown their willingness to serve, but have been prevented by reason of physical disability.

Out of a total of 155 from Utah, 147 have successfully passed the physical examination. Accurate data are hard to get, but the A. M. A. Journal carries the names of 59 members of our Association who have accepted commissions in the Army and Navy. Many others are now serving as examiners on local and medical advisory boards.

Having served as your Secretary since May 13, 1908, a little over ten years, and finding my work for the Government, as medical aide to the Governor of Utah, in connection with the selective service draft, becoming more arduous, I feel it due the Association that I tender my resignation, in order that someone may be elected who will be able to give more time to the duties of the office.

The following officers are to be elected: President, three Vice Presidents, Secretary (for unexpired term), Treasurer, Councilor Second District (three-year term), Councilor First District (unexpired term), Delegate to the A. M. A. (two-year term). W. Brown Ewing, Secretary.

The report was referred to the Committee on Officers' Reports.

President Stauffer appointed as Committee on Officers' Reports, Drs. G. W. Middleton, C. C. Hetzel and Joseph Hughes.

The Treasurer of our Association, Dr. F. A. Goeltz, having entered the service of the United States some time ago, and Dr. T. C. Gibson having taken over the duties of the Treasurer since the vacancy in that office occurred, Dr. Gibson read Treasurer's report as follows:

Report of Treasurer.

RECEIPTS.

Sept. 15, 1917, balance in bank	$ 710.93
Oct. 23, 1917, Salt Lake County	3.00
Dec. 13, 1917, Salt Lake County	3.00
Feb. 8, 1918, Salt Lake County	66.00
Mar. 20, 1918, Salt Lake County	174.00
Interest on note, Cons. W. & M. Co.	37.50
Apr. 5, 1918, Weber County	81.00
Uintah County	21.00
Apr. 16, 1918, Salt Lake County	102.00
Apr. 22, 1918, Cache County	30.00
May 16, 1918, Salt Lake County	48.00
May 28, 1918, Salt Lake County	24.00
June 10, 1918, Salt Lake County	15.00
Utah County	72.00
Interest on Liberty Bonds	6.00
Total receipts	$1,395.43

EXPENDITURES.

Voucher 101	$256.00
Voucher 102	27.90
Voucher 103	8.40
Voucher 104	25.50
Voucher 105	10.20
Voucher 106	300.00
Voucher 107	3.90
Voucher 108	15.00
Voucher 109	6.75
Voucher 110	7.00
Voucher 111	8.60

Voucher 112	25.00
Total expenditures	$693.35
Total receipts	$1,393.43
Total expenditures	693.35
Balance in bank	$ 700.08

ASSETS OF UTAH STATE MEDICAL ASSOCIATION.
June 25, 1918.

Cash in bank	$ 700.08
Liberty Bonds	300.00
Note of Consolidated Wagon & Machine Company	250.00
Total	$1,250.08
	222.00
	$1,028.08
Since June 25: 1918.	
Voucher 113	$ 5.00
Voucher 114	200.00
Voucher 115	17.00
	$222.00

The report was referred to the Committee on Officers' Reports.

Dr. T. C. Gibson then read

Report of the Council.

The Council met February 23, 1918, and invited the President, Dr. Fred Stauffer, to meet with it to set the date for the annual meeting of the Association. At that meeting it took up the matter of a delegate to the A. M. A. Dr. T. J. Howells had been elected by the House of Delegates of the Utah State Medical Association but, owing to the fact that he had not been a member of the A. M. A. two years, he was not eligible to a seat in the House of Delegates of that body. As the constitution provides that all officers shall hold office until their successors are elected and qualified, the Council continued in office the incumbent, Dr. Sol G. Kahn, until this meeting.

Dr. Francis A. Goeltz, Treasurer, being called into the service of his country, turned the funds of the Association and all other property in his possession over to the Council. The books were audited and found correct.

As there was less than three months until the meeting of the State Association, the Council thought it would be best not to appoint another Treasurer, but take care of the office until his successor could be elected by the House of Delegates.

The Council, with the President and Secretary of the Asociation, made an official visit to the Cache County Medical Society in the interest of the State Association.

Following last year's meeting, there was a small surplus in the treasury, and the Council instructed the Treasurer to subscribe for $300.00 in Liberty Bonds.

Dr. E. H. Smith, Councilor for the Second District, is now serving with the Red Cross in France.

T. C. Gibson,
Chairman of the Council.

The report was referred to the Committee on Officers' Reports.

Reports of Standing Committees.

The Secretary stated that there was no report in his hands from the Committee on Public Education.

Dr. G. F. Harding read the report of the Committee on Medical Education as follows:

To the House of Delegates, Utah Medical Association.

Gentlemen:

Our Committee of Medical Education views with considerable alarm and regret the announcement in Utah of the opening of a chiropractic school. Our concern in this matter is only because we realize that the school is simply a subterfuge to turn out unprepared people to practice upon the unfortunate, sick and injured people of this state. We learn from the State Board of Medical Examiners that there are a large number of chiropractors and other cults in Utah who are openly defying the medical practice act. Although the board has honestly endeavored to have the law enforced, it has met with some difficulties by reason of lack of support and action of the legal machinery of the state.

Your committee is informed that the chiropractors and others are planning a campaign with the object in view of securing legislation favorable to them and that a comparatively large sum of money will be raised for the purpose of carrying on such a campaign. We believe it is well for the members of the Utah State Association to know that the one and only reason why the various medical cults are able to defy the state law regarding the practice of medicine and attempt to secure legislation and other favors is because the regular medical profession puts forth little or no effort to prevent it.

May we suggest that it is time for the members of this Association and of every County Medical Society in Utah to begin active work in an effort to elect members of the next legislature who will pass measures to enforce the present medical law, and who will oppose any and all legislation which gives special favors to any particular sect or school of medicine.

Legislators and the public should understand that the regular medical profession is asking no special favors for itself. It simply asks that in establishing requirements for the practice of medicine in this state the ostensible object is to establish a standard which every practitioner must meet. The same education must be required of all schools of practice, no discrimination should be used, and all sects and all schools of medicine should be treated alike. The present requirement contained in the law can and should be met by every person who desires to practice medicine within the confines of the state. Having fulfilled the provisions of the law it is indifferent how any one practices, whether it is according to the teachings of any of the different schools, providing the one is licensed to practice medicine and has met the higher requirements of the present State Medical Law.

We are justly proud of the high position of the Medical Department of the University of Utah. It has fulfilled all the reuirements made upon it and is now in Class A for the first two years' teaching of medicine. It is the opinion of your committee that the Board of Regents of the University of Utah should actively take up the question with the next legislature as to who should be permitted to issue diplomas in medicine, or, for that matter, in any branch of advanced learning. The power to grant diplomas should be vested with the Commissioner of Education, who should refuse to recognize any college in this state that does not have a standardized equipment and curriculum and that does not have a competent force of instructors.

Your committee therefore recommends (1) That this association and the component county associations begin a vigorous campaign to elect legislators of the coming legislature who will uphold the high standards of medical education, and who will not permit any medical legislation which gives special favors to any particular sect of medicine. (2) That a committee be appointed to confer with the Regents of the University of Utah, the Agricultural College, and other institutions of learning in this state with the end in view of securing legislation, giving to the Commissioner of Education the power to supervise and regulate all institutions granting diplomas in this state. (3) That this association provide ample funds to carry on a vigorous campaign, with the object in view of letting the public know the true object of the present medical law and the harmfulness of legislation which gives special favors to any particular sect or school of medicine. (4) That this association employ a competent attorney to properly conduct educational campaigns, and to attend such other business of the association as may need his attention.

Very respectfully,

G. F. Harding, M. D.
Fred W. Taylor, M. D.
Committee on Medical Education.

Dr. Harding then stated that the following resolution had been prepared by the Committee on Medical Education, and the Committee recommended its adoption:

Be it resolved by the Utah State Medical Association:

1. That this Association and component county societies begin and continue a vigorous campaign against lowering the standards of medical education or the granting of special favors to any particular sect or school of medicine.

2. That the Regents of the University of Utah, and all other institutions of learning in the state, be urged to secure legislation giving to the Commissioner of Education the power to supervise and regulate all institutions granting diplomas in this state.

3. That this Association provide the necessary funds to accomplish the intent and purposes of this resolution.

4. That this Association employ an attorney to conduct educational campaigns and attend to other matters of the Association to work in conjunction with the Special Committee appointed by this Association.

The report was referred to the Committee on Officers' Reports.

The Secretary stated there was no report in his hands from the Committee on Public Policy and Legislation, from the Committee on Necrology, nor from the Committee on Scientific Work.

With regard to the report of the Committee on Arrangements, the President stated that report would be made to the session of the convention, to be held this afternoon.

Dr. G. W. Middleton: In the reports that have been given I hear no recommendation in regard to improving the condition that has arisen in connection with the Industrial Commission of the State of Utah. I suppose all of us have had experience in this regard. They require from us services that are standard and yet they want to pay us only starvation wages. I think the society should take some action to improve that condition.

President Stauffer: Have you any resolution to offer, or will you formulate a resolution to present to the next session of this House of Delegates?

Dr. John Z. Brown: I move that a committee of three be appointed, Dr. Middleton to act as chairman, to formulate some resolution to be considered at the meeting of the House of Delegates to be held Wednesday, Sept. 11.

The motion was seconded by Dr. E. Van Cott and, after discussion, was unanimously adopted. President Stauffer appointed a committee of Drs. G. W. Middleton, J. Z. Brown and C. M. Clark.

There being no further business the meeting adjourned until tomorrow morning at 8:15 o'clock.

September 11, 8:15 a. m.

Dr. A. J. Stewart, First Vice President, in the absence of Dr. Fred Stauffer, President, called the meeting to order.

Minutes of the last meeting were read, approved and accepted as read.

Election of Officers.

The next order of business being the election of officers for the ensuing year, Vice President Stewart appointed Drs. E. B. Isgreen and Joseph Hughes to act as tellers. The following were elected for the ensuing year: President, Dr. G. W. Middleton; First Vice President, Dr. J. F. Noyes; Second Vice President, Dr. E. B. Isgreen; Third Vice President, Dr. C. C. Hetzel; Secretary, Dr. W. L. Rich; Treasurer, Dr. Jane W. Skolfield.

The question arose as to whether a Councilor for the First District should be elected to succeed Dr. E. H. Smith, who is now in the service of

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the Red Cross. It was decided not to do so because of his very efficient and valuable service, it being within the power of the Council to appoint a successor if necessity arises before Dr. Smith returns.

Dr. T. C. Gibson was elected Councilor for the Second District.

Dr. J. R. Morrell was elected Delegate to the American Medical Association.

A request having been made by the A. M. A. that a permanent Advisory Committee on Hospitals be either elected by the House of Delegates or appointed by the President of the Utah State Medical Association, it was decided that the President should appoint this committee, inasmuch as all other committees are appointed by him, as provided by the by-laws of the Association.

Reports of Committees.

The report of the Reference Committee on Reports of Officers was presented by Dr. G. W. Middleton, chairman.

Report of the Committee on Medical Education: We wish to recommend and emphasize particularly the appointment of a committee that will effectually take up the matter of legislation to prevent the recognition of chiropractors and other cults of that kind. There should be some way of getting this before the state society, either at this present session or by communications to the members.

Report of the Finance Committee. We recommend its adoption, also that the membership fee for the society be increased sufficiently this year to provide a contingent fund for the employment of such counsel as is necessary to defend the Medical Practice Act and secure such other legislation as is necessary.

Report of the Secretary. We recommend its adoption. In view of Dr. Ewing's very efficient service for all these years, and the heavy duties incident to his present official position, we recommend that he be permitted to retire with a vote of thanks of the society for his efficient service.

After discussion the motion was carried for adoption of the report.

Dr. G. W. Middleton, chairman of the Special Committee appointed by the President, reported the following resolution:

"Resolved, That the State Medical Association of Utah refuses to acknowledge the schedule of prices for professional service fixed by the Industrial Commission by legislative sanction, and shall deal with their patrons or their employers direct as heretofore, regulating their own prices and terms of settlement, and that the Committee on Public Policy and Legislation is hereby authorized to safeguard the interests of the society in this matter."

After considerable discussion the motion was put and carried.

Salt Lake City was selected for the next meeting of the association. There being no further business, the meeting adjourned sine die.

BOOK REVIEWS

Gynecology. By William P. Graves, M. D., Professor of Gynecology at Harvard Medical School. Second Edition, Thoroughly Revised. Octavo volume of 883 pages with 490 original illustrations, 100 of them in colors. Philadelphia and London; W. B. Saunders Company, 1918. Cloth, $7.75 net.

This second edition is divided into three parts. The first is principally physiology, in which the relationship of gynecology to the internal secretions is very complete and up to date. The chapter dealing with radium treatment of cancer and radium therapy in non-malignant gynecologic diseases covers this field very admirably and gives the reader a comprehensive summary of what can be expected from this form of treatment at this time. The third part deals exclusively with the technic of gynecologic surgery. The author here gives his personal choice of procedure. There are several new operations well illustrated and described. This book is not a complete textbook in gynecology but rather a book that will find its right place with the general practitioner as well as the advanced student of gynecology. JOHANSON.

Preparing for Womanhood. By Edith B. Lowry, M. D., 175 pp. $1.00. Forbes & Co., Chicago, 1918.

This little book presents a great deal of sensible and commonplace information which ought to be the knowledge of every girl approaching womanhood. The author says that, if all girls remained at home and were instructed by their parents, there would be little need for such a book but girls who have not known a mother's care need information on these subjects of the right kind. The author deals with proper forms of recreation to attain good development, gives sensible views on personal appearance, including matters of dress, good manners, etc. There is a chapter on right thinking, in which the author emphasizes the necessity for a girl not being afraid to say no. The chapter on motherhood contains information which every prospective mother ought to possess. It is a book which any physician can recommend to his girl friends.

SMITH.

Nursing in Diseases of Children. By Carl G. Leo-Wolf, M. D., Instructor in Pedestrics, University of Buffalo Medical Department, etc. 314 pp., with 72 illustrations. C. V. Mosby Co., St. Louis, 1918. Price, $2.50.

This is an extremely useful little book, not only as a textbook for outside reading in a class of nurses who are having their lectures for the first time on disease in children, but also containing much that at times would be useful to a physician. The metric system of weights and measures is briefly but clearly discussed and in a similar manner the basic principles of feeding are also covered. Under the heading, feeding in old children, is something every physician should have in his office who deals with children, a table of foods with their fat, protein, and carbohydrate caloric values. There follows many practical chapters, including disturbances of nutrition, examination of the child, infectious and contagious diseases, the nursing of the sick child and public health nursing in children.

MANNING.

I.C.G.

NORTHWEST MEDICINE

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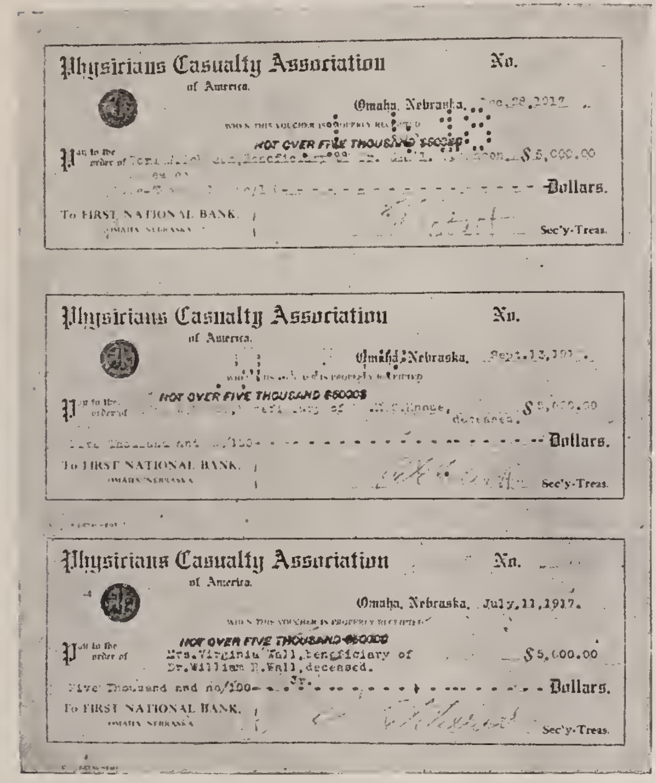

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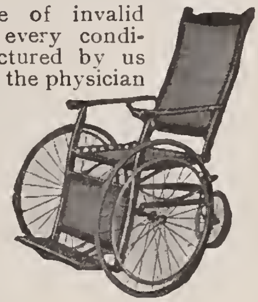

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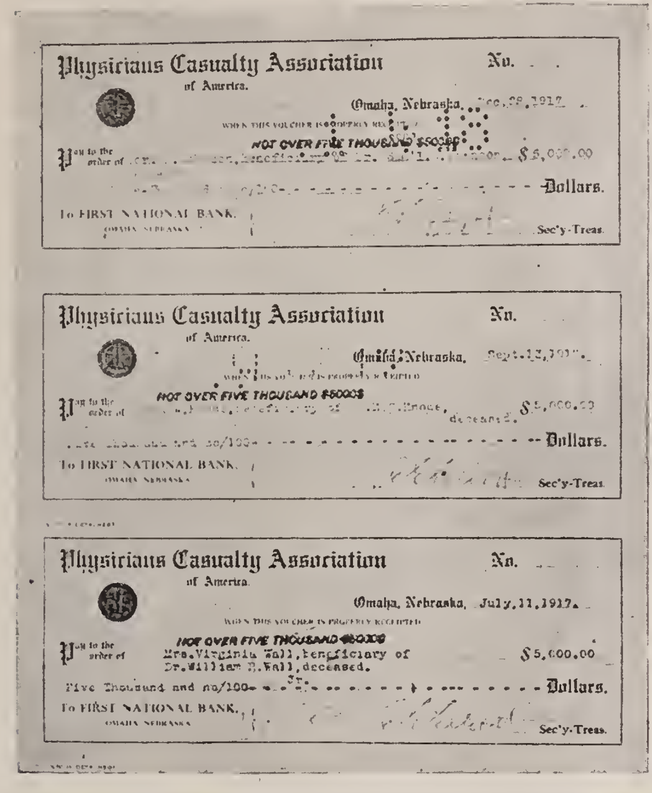

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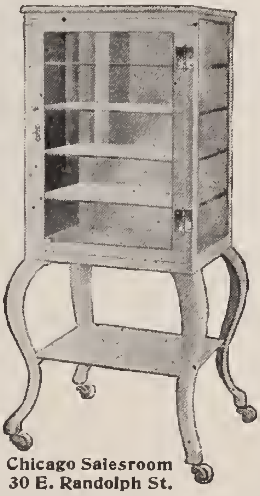

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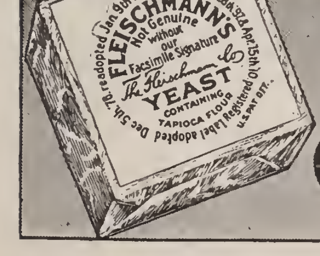
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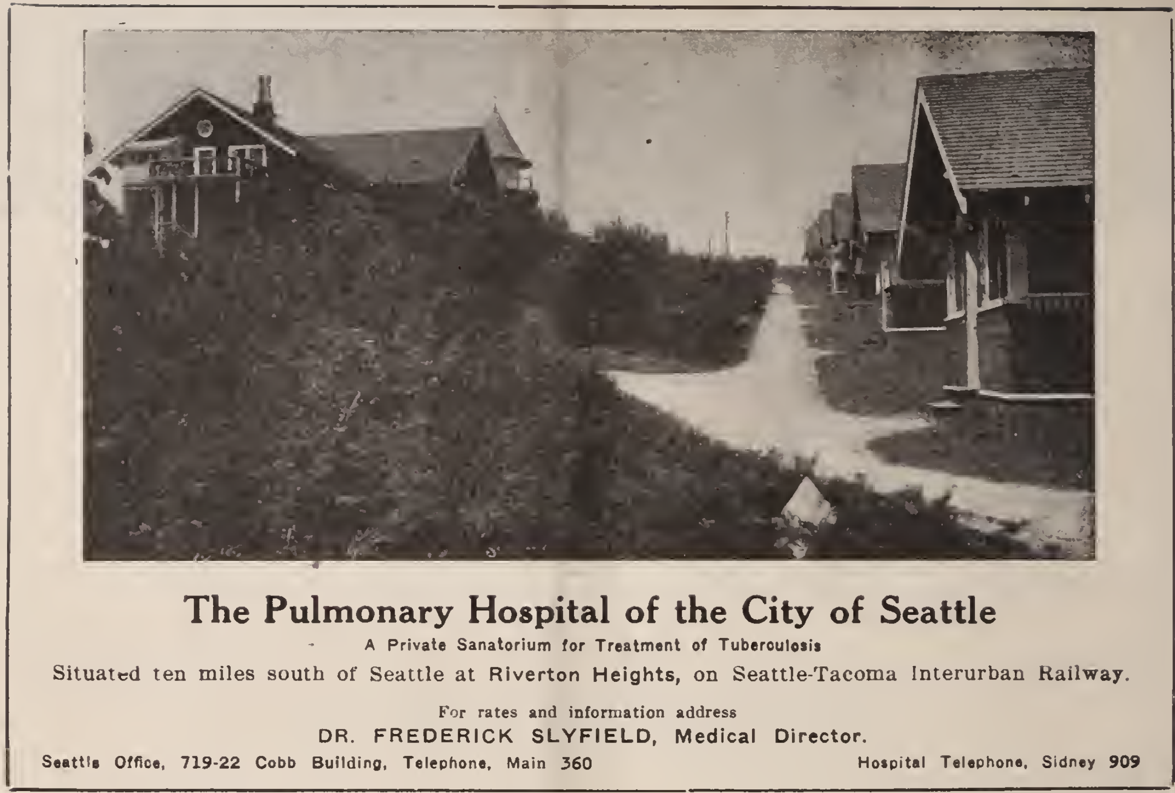

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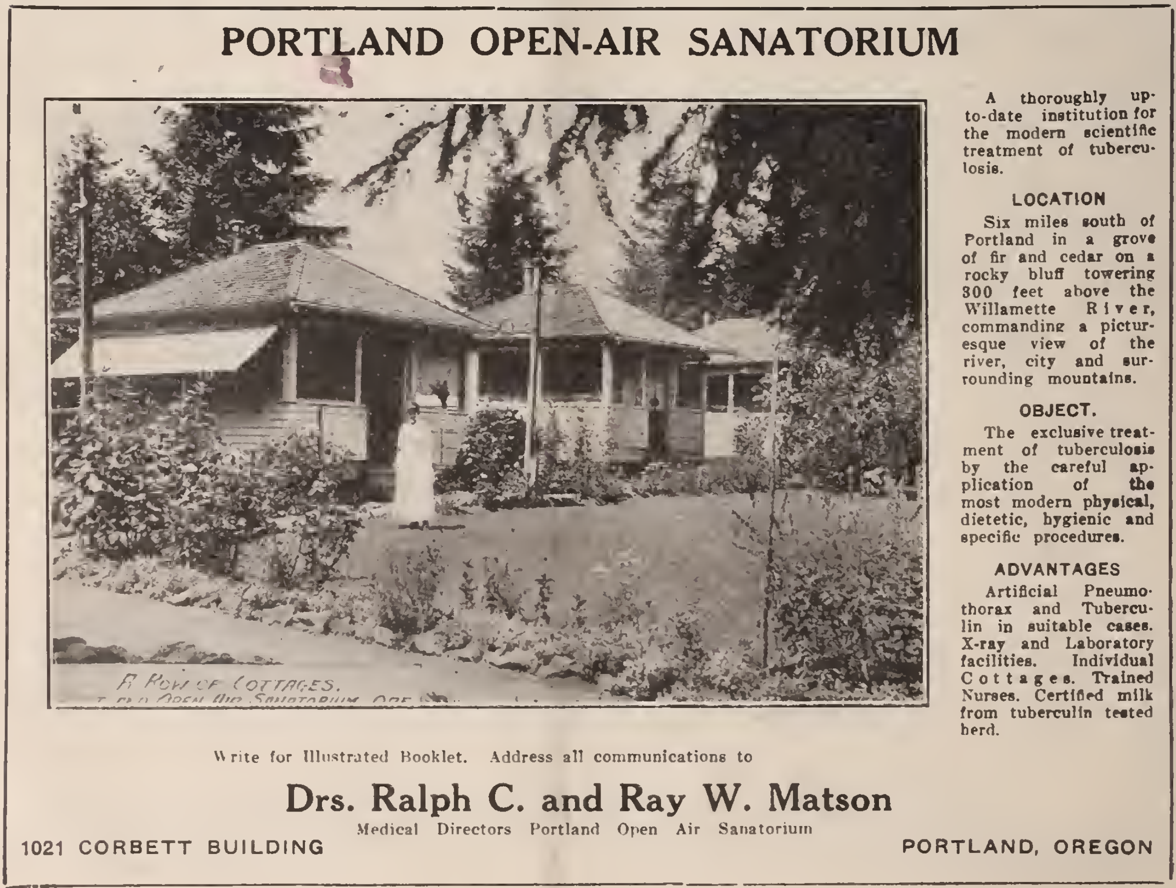

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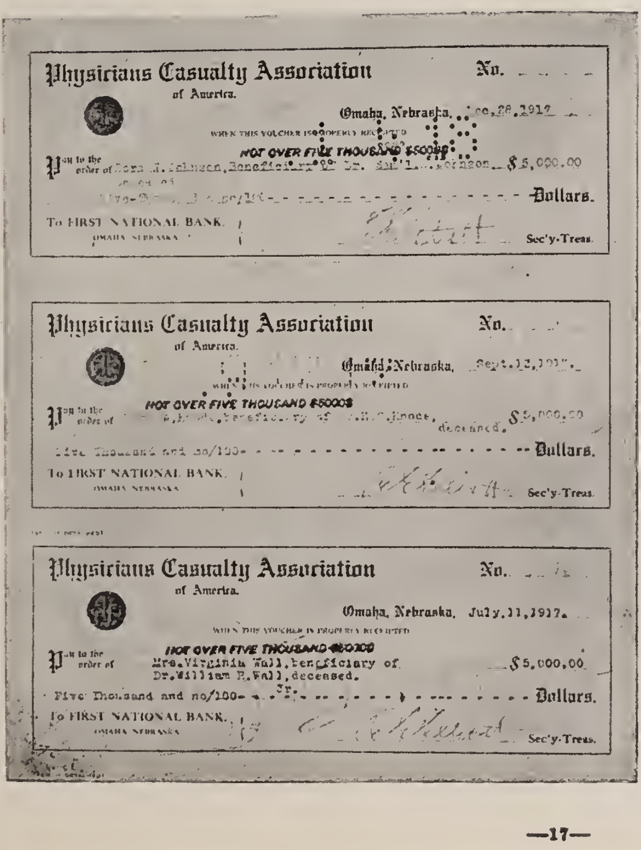

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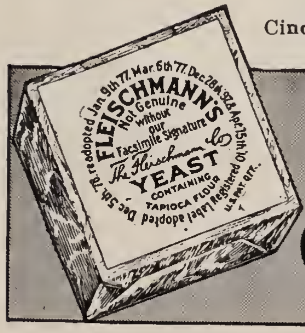
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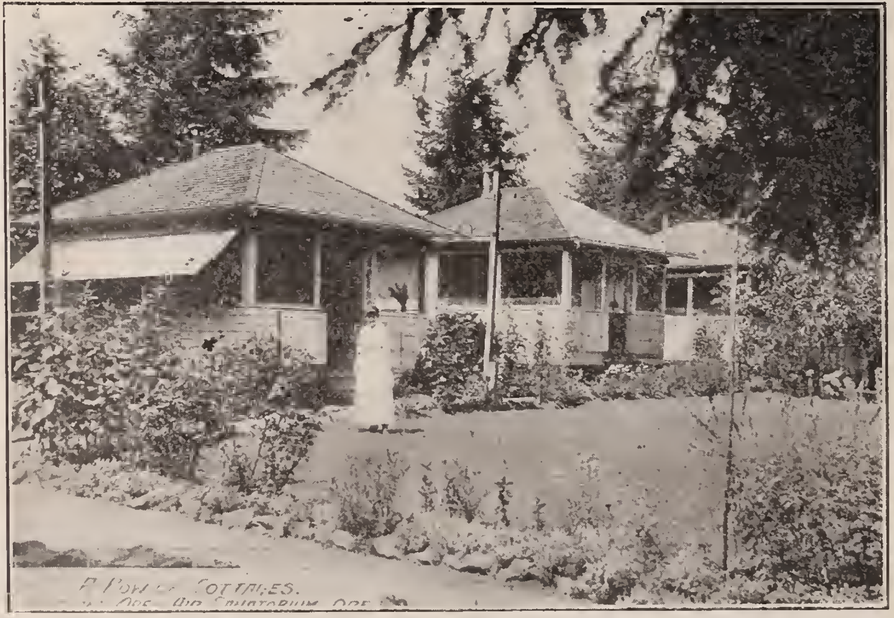

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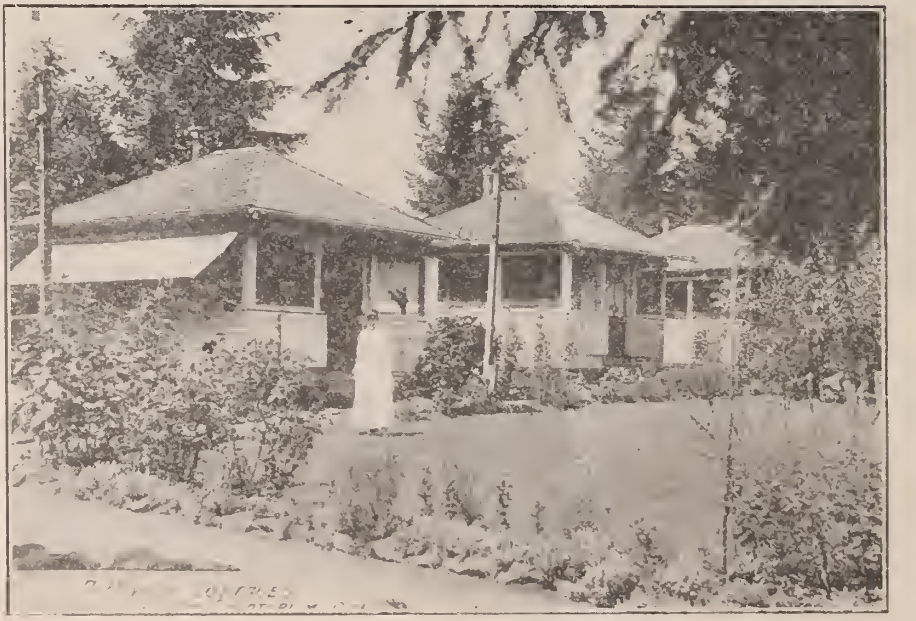

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